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PANOLA MOUNTAIN

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STATE PARK

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A COMPREHENSIVE MASTER PLAN

FOR

PANOLA MOUNTAIN STATE PARK

GEORGIA DEPARTMENT OF STATE PARKS

Prepared By

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CHAPTER I

REGIONAL ANALYSIS

INTRODUCTION

Providing outdoor recreation for the people of Georgia has long been a tradition of this great State. Recreation is becoming the fastest growing industry in the Southeast, as it is in Georgia. With more leisure time at their disposal, people are looking to the rural areas for recreation, relaxation and enlightenment.

Areas of scenic beauty, natural uniqueness, and historical significance have entertained millions each year; but in recent years the population of our country has realized that many of these attractions, as well as the wood across the street, the old swimming hole, and more noticeably the air we breathe, have gone bad.

The Georgia Department of State Parks has undertaken a new concept in state parks development -- a conservation of state park. Panola Mountain State Park, an environmental, educational and recreational park, is representative of this new concept.

BACKGROUND

Panola Mountain has been a popular place for research hiking and nature study for many years. When the owner, Yarbrough Farms, decided to sell, a small group of people known as the Georgia Conservancy, inquired into the purchasing of this most unique area in order to preserve it. Being without funds, the Georgia Conservancy notified the Nautre Conservancy of Washington, D. C. (a national organization) to help with the purchase and the sale was consummated on August, 1968. The property was deeded over to the Georgia Conservancy in July, 1970.

The Georgia Conservancy persuaded the Georgia Department of State Parks to investigate the possibility of purchasing this as a state park. With a Land & Water Conservation Fund grant for acquasition, the State of Georgia purchased the Panola Mountain tract. In May of the year 1971, Panola Mountain became Panola Mountain State Park.

In December, 1971, the firm Environmental Planning and Engineering was commissioned to prepare a comprehensive Master Plan for the development of the park.

OBJECTIVES

The primary objective of the comprehensive Master Plan is to analyze the state park so as to determine areas of special interest, areas for use, and make recommendations to insure protection of the special areas, as well as provide enjoyment and stimulate the interest of the people of Georgia and their visitors.

PURPOSE

Panola Mountain State Park has been created by th Georgia Department of State Parks, for the purpose of protecting for all time the area's unique features; for the interpretation of its significance in terms of natural environment.

PROCEDURE

The procedure followed to accomplish the work was to gather, correlate, and interpret data gathered through meetings, conferences, and discussions with city, county, state and federal officials, planners, and educators. Also included was an examination of the site in detail -- photography of the terrain features, mapping, and other graphis material. At several points, meetings with state representatives and the advisory committee were held for progress reports and critiques.

ADVISORY COMMITTEE

An Advisory Committee composed of members of the Georgia Conservancy noted university professors in biology, as well as elementary education consultants, were appointed by the state to share with the consultant, data and their experience in years of study already conducted at the Panola Mountain. The Advisory Committee was both helpful and encouraging during the preparation of this comprehensive Master Plan.

GEOGRAPHICAL LOCATION

Panola Mountain is located in the Piedmont Plateau of North-middle Georgia in the northwest corner of Rockdale County, Latitude 33° 38' -0" Longitude 84° 10'-25", and is bounded by Henry County to the south, and Dekalb County to the north. The project area is located in land lots 222, 227, & 254 of the 11th District in Rockdale County and land lot 222 of Henry County.

REGIONAL ANALYSIS

THE REGIONS - In an effort to forecast the use potential of Panola Mountain, two regions of influence were identified:

Primary Region - The primary region is made up of those counties in the Atlanta Metropolitan Area with the addition of several counties with quick access to the project location. The Primary Region is made up of the following counties:

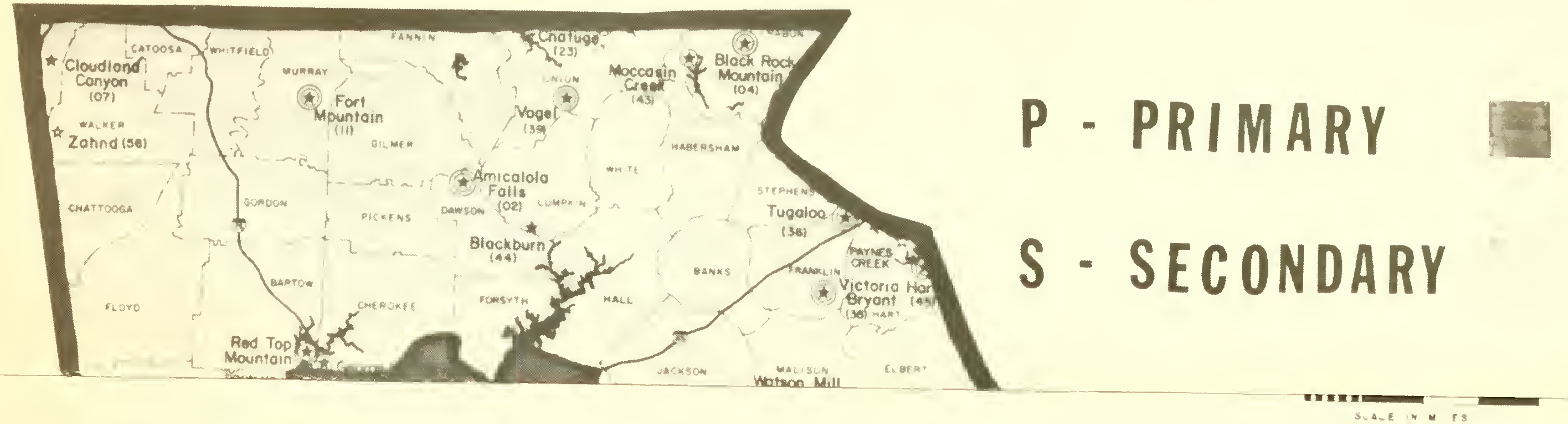
Clayton
Cobb
DeKalb
Douglas
Fayette
Fulton
Gwinnett
Henry
Newton
Rockdale
Walton

Secondary Region - The Secondary Region is made up of the counties north of the fall line where the Piedmont Plateau ends and the coastal plains begin. A geographic line of demarcation was used as the limits of this Secondary Region; however, a travel time/distance factor of 150 miles or 2½ hours has been applied here.

The counties making up the Secondary Region are as follows:

Baldwin
Banks
Barron
Bibb
Butts
Carroll
Catoosa
Chattooga
Cherokee
Clarke
Columbia
Coweta
Crawford
Dade
Elbert
Fannin
Floyd
Forsyth
Franklin
Gilmer
Gordon
Greene
Habersham
Hall
Hancock
Harralson
Harris
Hart
Heard
Jackson
Jasper
Jones
Lamar
Lincoln
Lumpkin
McDuffie
Madison
Merriwether
Monroe
Morgan
Murray
Muscoggee
Oconee
Oglethorpe
Paulding
Pickins
Pike
Polk
Putnam
Rabun
Richmond
Spalding
Stephens
Talbot
Taliaferro
Towns
Troup
Upson
Walker
Warren
White
Whitfield
Wilkes

regional analysis



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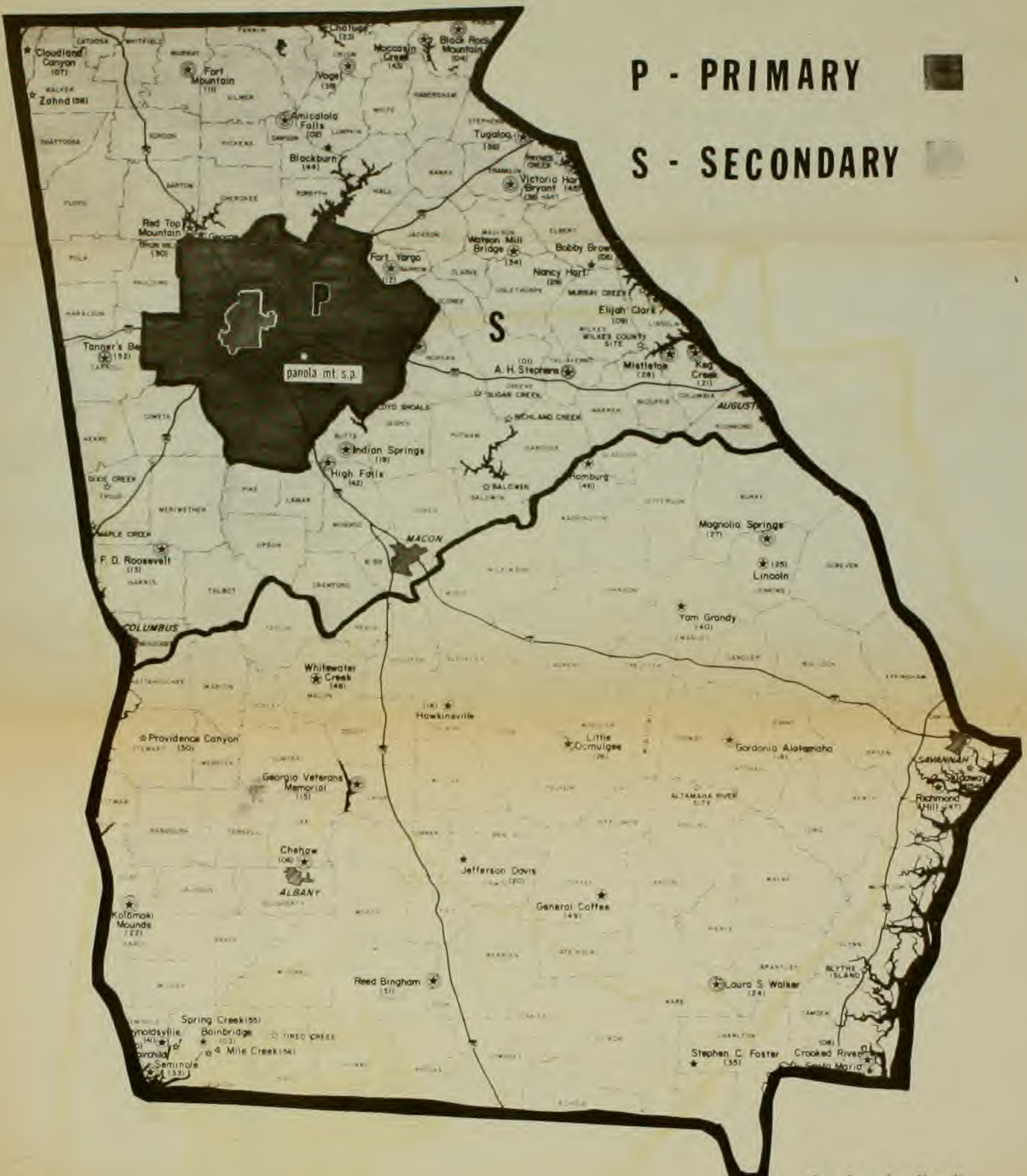
DEMOGRAPHIC STUDY

PLATE
1

regional analysis



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DEMOGRAPHIC STUDY

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1

DEMOGRAPHIC ANALYSIS

This Section gives consideration to the population, education and age groups of the Primary and Secondary regions. The importance of study in this area lies in the fact that the use impact for Panola Mountain Conservation State Park will come from these areas.

POPULATION

The population of the Primary and Secondary regions will place the user demand on the park facility; with the Primary region having the greatest impact.

Primary Region - Population Breakdown

County	1960	1970	1980(projected)
Clayton	46,365	98,043	149,721
Cobb	114,175	196,793	279,412
DeKalb	256,782	415,387	573,992
Douglas	16,741	28,659	51,116
Fayette	8,199	11,364	21,763
Fulton	556,326	607,592	658,858
Gwinnett	43,541	72,349	101,157
Henry	17,619	23,724	29,829
Newton	20,999	26,282	31,565
Rockdale	10,572	18,152	25,732
Walton	20,481	23,404	26,327
	1,111,800	1,521,749	1,949,472

The Primary Region makes up 33.75% of state population.

The total Secondary Region population 1,635,127 makes up 34% of the state population.

The combined populations of the two regions contains approximately 70% of the population of the state. The total state population as of the 1970 Census was 4,589,575.

Projected figures prepared by the Metropolitan Atlanta Planning Commission show that this east southeastern section of metro Atlanta is projected to increase in population at the rate of 95% by the year 1983.

AGE-EDUCATION ANALYSIS

The Primary Region school age population is approximately 409,631 children of both sexes.

The age groups by sex:	Male	Female
5 - 6 yr.	32,485	32,024
7 - 9 yr.	49,083	46,938
10 - 13 yr.	65,128	62,059
14 yr.	15,933	15,380
15 yr.	15,319	14,648
16 - 17 yr.	28,671	27,871
	206,619	198,920

TOTAL: 405,539

In addition, there are 141,092 children in the five (5) and under category.

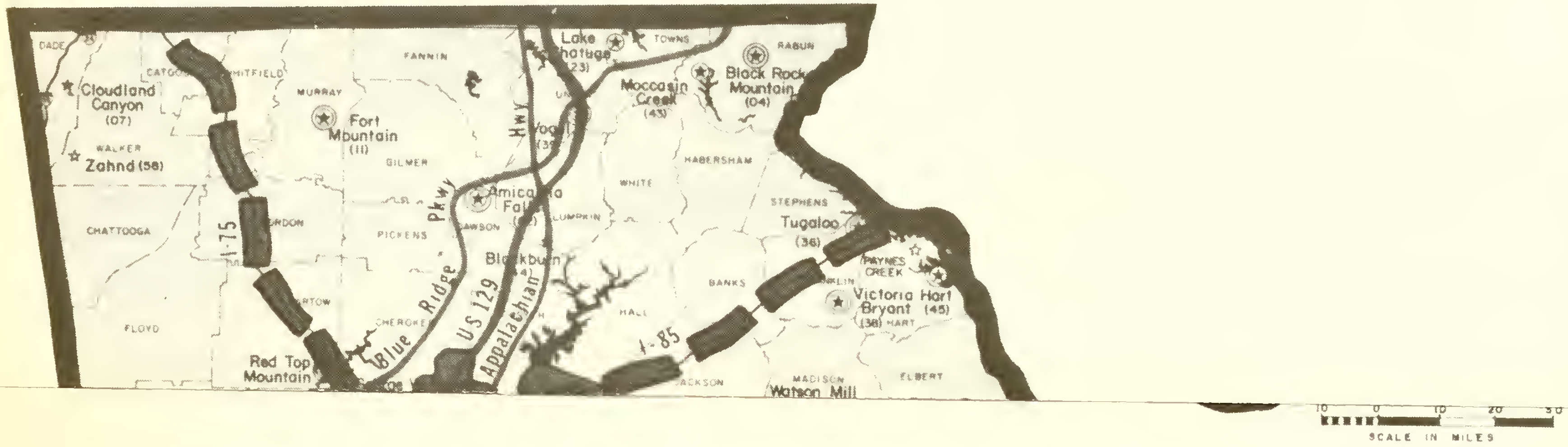
The Primary Region has over 44,000 college students in 23 junior colleges, colleges and universities.

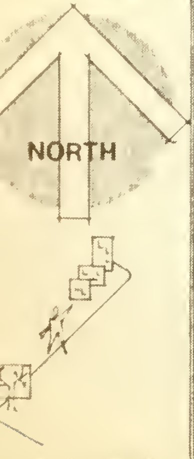
The Secondary Region has an additional 34 junior colleges, colleges and universities.

ACCESSIBILITY ANALYSIS

Panola Mountain State Park lies within close proximity to Atlanta which may be described as the hub of the Southeastern United States. Virtually all ground transportation from the industrial, high population density states of the mid-west en route to Florida passes within close proximity of Atlanta and thus close to Panola Mountain. Atlanta is the junction of Interstate Highways 75, 85 and 20 which are connected by a circumferential highway I-285. There is at this time planning being done to construct another perimeter highway from 5 to 20 miles outside of I-285; therefore, on the regional basis the accessibility to Panola Mountain can only be described as excellent.

regional analysis





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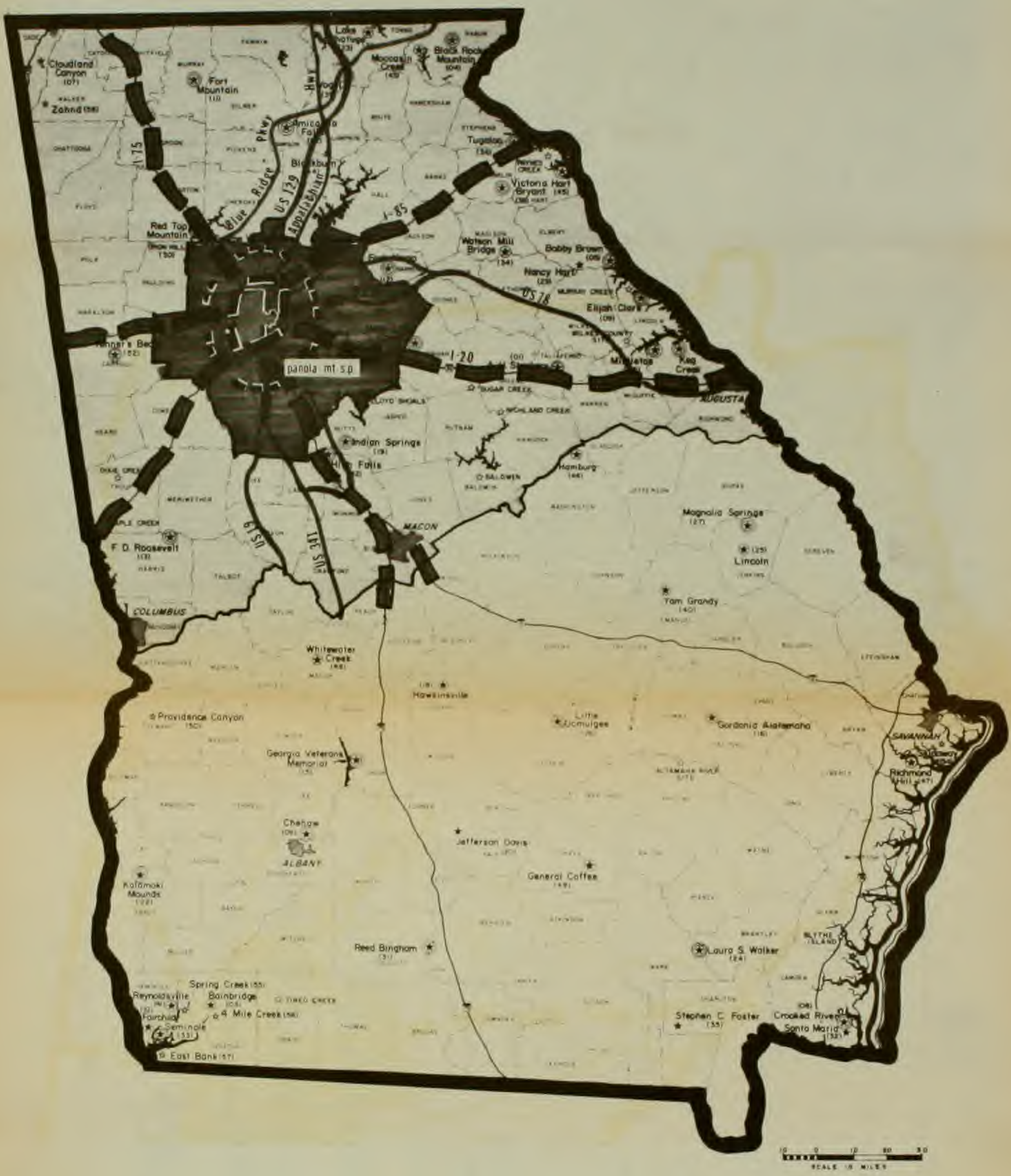
ACCESS STUDY

PLATE
2

regional analysis



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ACCESS STUDY

PLATE
2

RECREATION

Recreation discussed in this section is primarily that of Federal and State agencies.

The recreation facilities provided by the State are primarily oriented to active type recreational use. Recreational education, passive recreation and natural resources studies are support facilities for the above.

The Federal government has provided primarily two (2) types of recreation facilities in the region:

Active recreation facilities such as camping grounds, picnic areas, boating ramps, docks, activity areas,huniting areas and general outdoor recreation areas.

This type of active recreation is provided mainly by the U. S. Corps of Engineers, U. S. Forest Service and U. S. Sports Fishery and Wildlife.

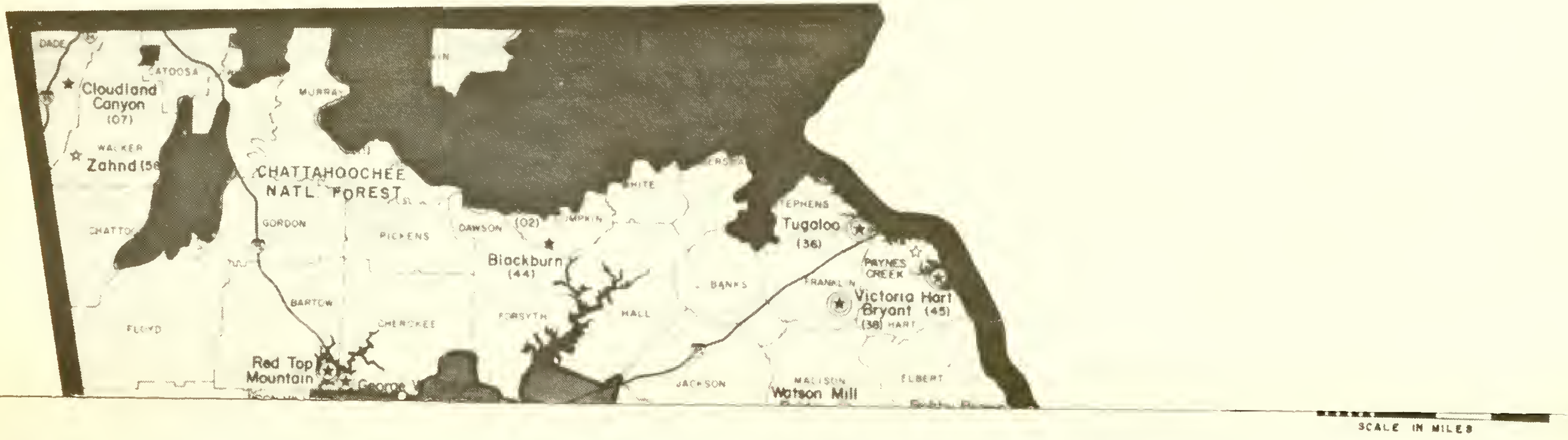
Active recreation facilities are located on:

Agency	Location	Type Activities	Annual Visitor Use
U.S. Corps of Engineers	Lake Sidney Lanier	Boating, camping picnicing, fishing, pleasure driving, summer homes	13,702,700
U.S. Corps of Engineers	Lake Allatoona	Boating, camping, picnicing, etc.	6,962,300
U.S. Corps of Engineers	Lake Hartwell	Boating, camping, picnicing, etc.	5,615,500
U.S. Corps of Engineers	Lake Clarkhill	Camping, hunting, fishing, hiking, picnicing	4,581,900
Chattahoochee National Forest & Oconee National Forest	North Georgia	Camping, huniting, fishing, picnicing	1,580,200
U.S. Dept. of Interior - Bureau of Sport Fishery & Wildlife	Georgia Piedmont Area	Hunting and fishing, camping, boat launching	600,000

Passive recreation facilities such as cultural and natural history, interpretive facilities and nature trails and ecological ecological areas are usually provided by the State of Georgia Historical Commission, Dept. of the Interior, National Park Service.

Agency	Location	1971 Visitor/Day
National Park Service	Chickamanga & Chattanooga National Military Park	12,416,538
National Park Service	Kennesaw Mountain National Battlefield Park	6,031,127
National Park Service	Ocmulgee National Monument	51,651

regional analysis



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RECREATION STUDY

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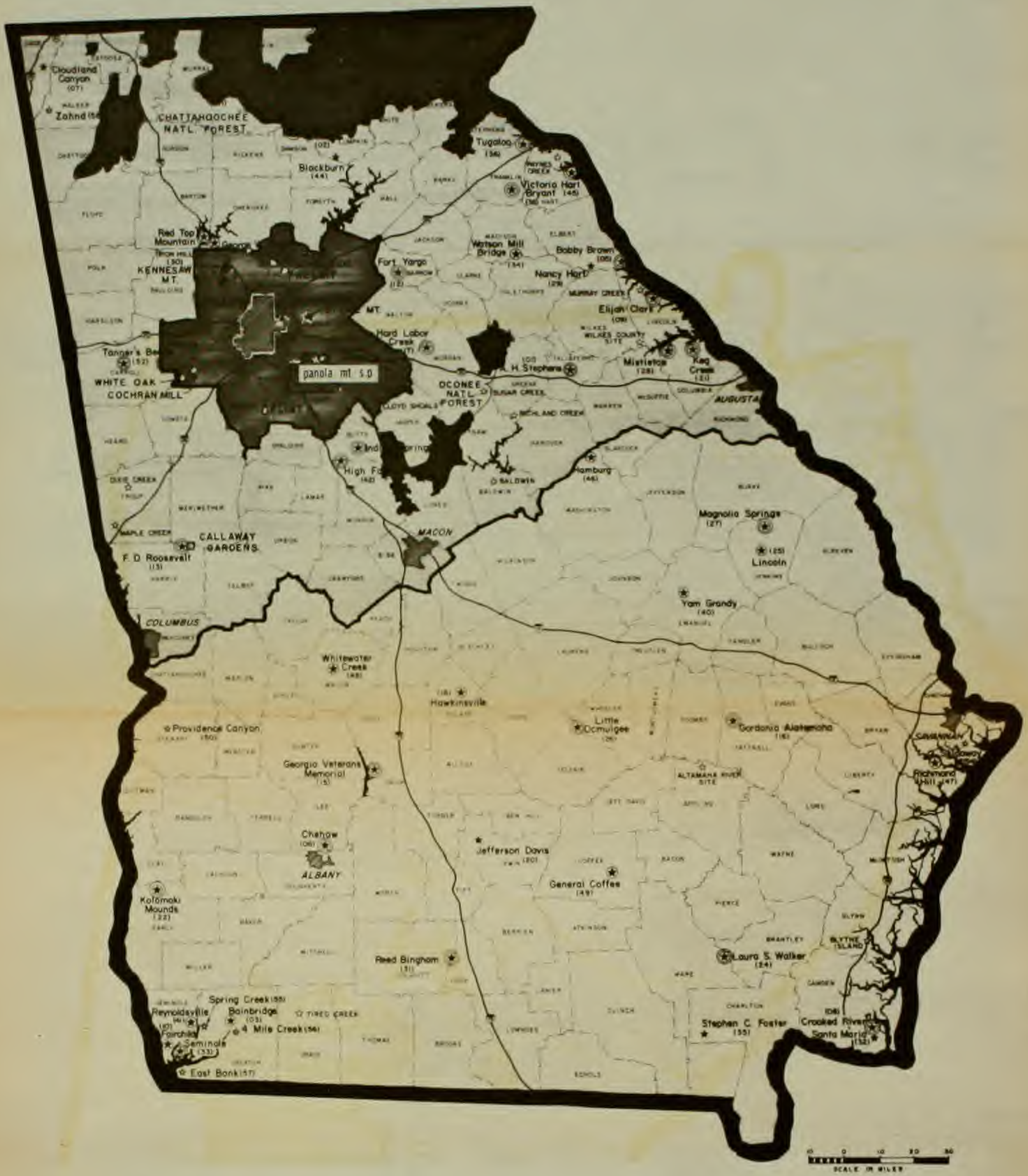

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RECREATION STUDY

PLATE
3

CHAPTER II

LOCAL ANALYSIS

ACCESSIBILITY ANALYSIS

Local

The entrance to Panola Mountain State Park will be located on State Route 155 between Decatur and McDonough within minutes drive from Interstate Highways 20 and 285. A traffic count taken on Ga. 155 near the proposed park entrance in February 1970 indicated a daily 2-way volume of 2,695 vehicles. Projecting this volume ahead to 1980, based on a national trend of increased miles traveled since World War II, it will increase approximately 21% to 3,260 vehicles per day, still below the estimated ultimate capacity of 6,000 vehicles per day on Ga. 155. However, this is above the capacity of 1,000 vehicles per day for which it was designed in 1953. The travel lanes are narrow by today's standards. The road was designed for 50 miles per hour, but is currently posted for 60 miles per hour, a speed which is somewhat uncomfortable since it is in excess of the design values used. The traffic using Ga. 155 does travel at a high rate of speed along the park frontage which will present a hazardous condition for slow moving vehicles entering and leaving the park area. Coupled with the anticipated growth in traffic some improvement in the vicinity of the park entrance seems justified. From study of the growth patterns of the Atlanta Metropolitan area, that area outside of and within 10 miles of the existing Perimeter Highway and adjacent to the radiating Interstate highway is experiencing the highest rate of urbanization. This development factor is the most difficult one to anticipate in projecting traffic volumes and patterns. As local population is expected to increase on the order of 95%, there will probably be a correspondingly larger growth in traffic.

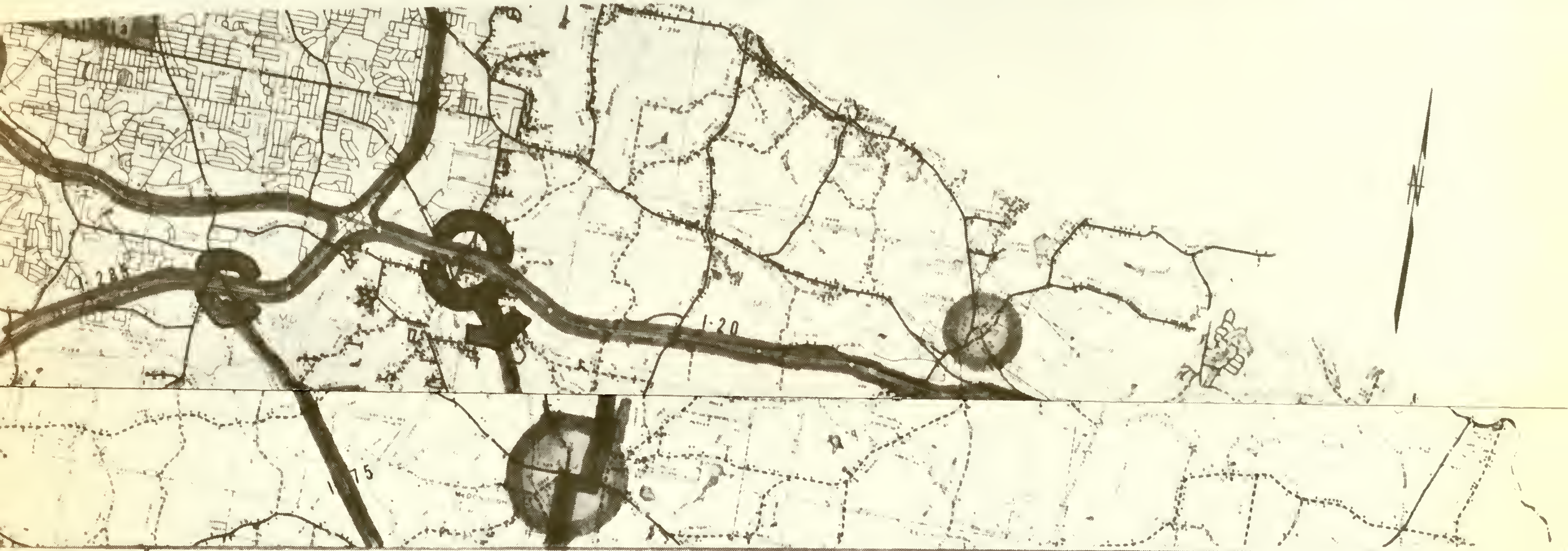
ENVIRONMENTAL INTRUSIONS ANALYSIS

A part of our environment in recent years has become a major concern to the people of Georgia. These various forms of environment deterioration are: pollouted water, dirty air, noises, visual blight. There has been no real attempt to measure, monitor or collect data on the various forms of pollution. Some of the more obvious forms of pollution that occur in the local area are:

(1) Noise Pollution: Panola Mountain appears to be on the Direct Flight Line to the Main East-West runway of the Atlanta-Hartsfield Airport. Information concerning flights lines in the Atlanta area indicates this route as the heaviest traffic with three VHF flight lines V18, V66 and V454. On certain days an interval of three minutes between flights has been recorded. Air polution and noise pollution are both produced by these aircraft. The noise level is extremely high on occasion, depending on atmospheric condition.

(2) Air Pollution: Only an observation of the change in visibility of the Atlanta skyline is the measure of the air pollution on a given day. This has not been related in any way to atmospheric condition, time of day, day of week. However, it has been noticed that the Atlanta skyline is clearest on Monday and almost completely obscured by Friday.

local analysis



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ACCESS & UTILITIES

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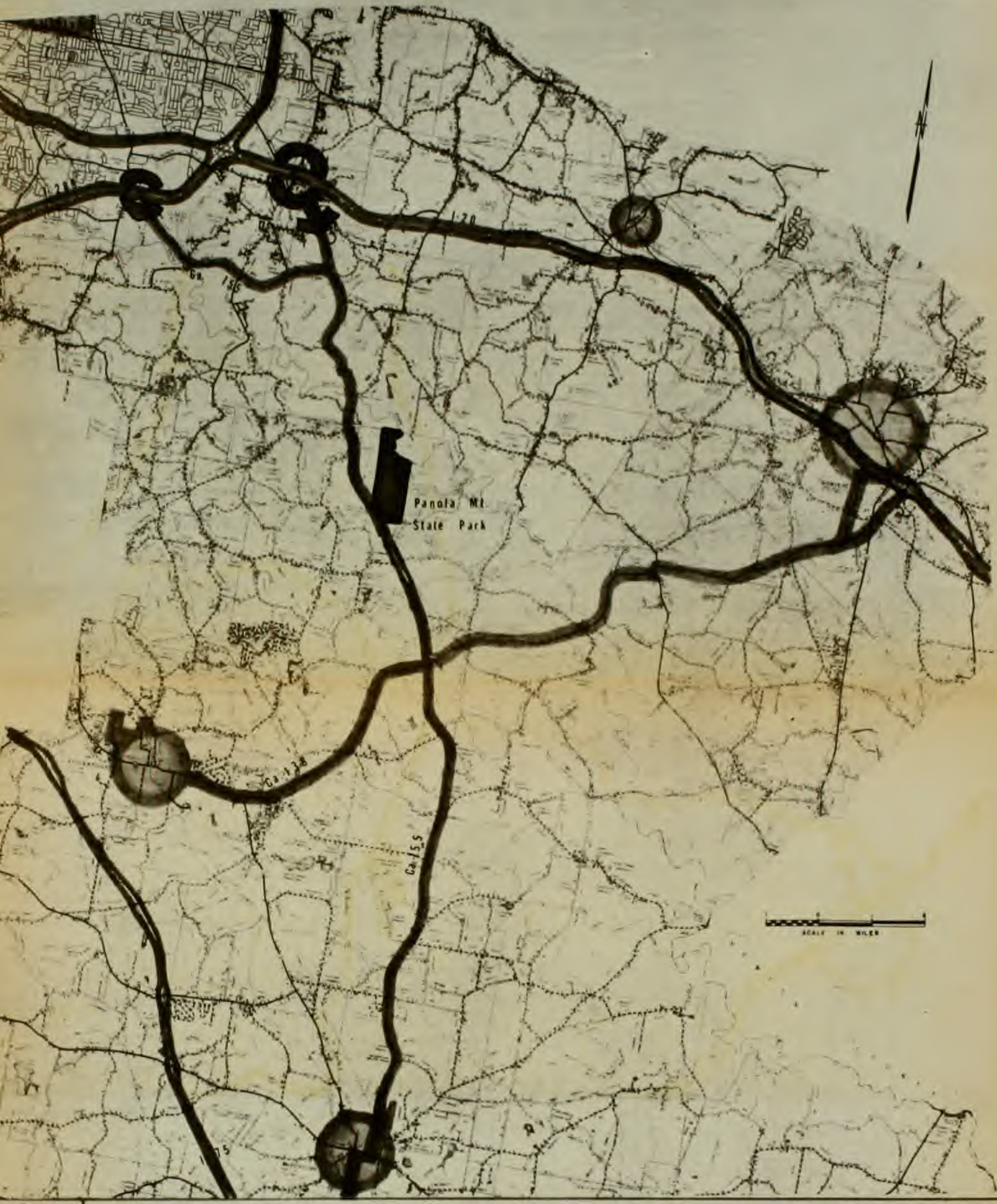
4



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ACCESS & UTILITIES

PLATE
4

(3) Water Pollution: The South River is one of the main tributaries of the Altamaha River drainage. Beginning in the City of Atlanta, Fulton County, it immediately becomes one of the several "open sewers" of Metropolitan Atlanta. This river has long been a means for getting rid of storm water, sanitary sewage, (raw and treated), industrial waste, trash, and anything else that can be transferred by water.

(4) Sedimentation & Erosion: There are many examples of rough grading, by speculation and general contractors, that have been left stripped of vegetation and contributes to the siltation and flooding of the river. The Chattahochee River, South River and Flint River are examples.

(5) Trash Dump: This is a necessary part of over-growing urban society and will be increasing as the restriction on open burning becomes more enforced. However, water runs off from these areas unchecked and this can cause ground water as well as surface water pollution. Sanitary Land Fills should be covered over daily not left open and exposed as this one.

CLIMATOLOGY ANALYSIS

Climatology is the study of the total day to day weather conditions: precipitation, pressure and winds, and humidity over an extended period of time.

The following is a summary of climatology factors of Rockdale County, and are graphically representated on Plate 5.

Climatic Type

Rockdale County, as most of the rest of Central Georgia, lies at the foot of the Blue Ridge Mountains in the Piedmont Plateau. The land slopes generally downward both to the east and west as well as to the south. The climate is modified by its altitude and its proximity to the Atlantic Ocean and the Gulf of Mexico. The mountains to the north act as a partial barrier to the movement of cold continental air. The combination of the terrain and altitude tends to moderate the temperature. The county is located in or close to the humid subtropical climate belt, precipitation is plentiful with occasional dry periods of several weeks or months.

Temperature

Temperatures have on rare occasions fallen below zero; however, the normal daily minimums are above freezing. In January, the coldest month, the mean is 43.3 degrees based on the records since 1879. The monthly mean for July, the warmest month, is 78.5 degrees. The annual mean temperature is 61.5 degrees. The average growing season is 233 days from March 24 to November 13 when the first freezing temperatures occur.

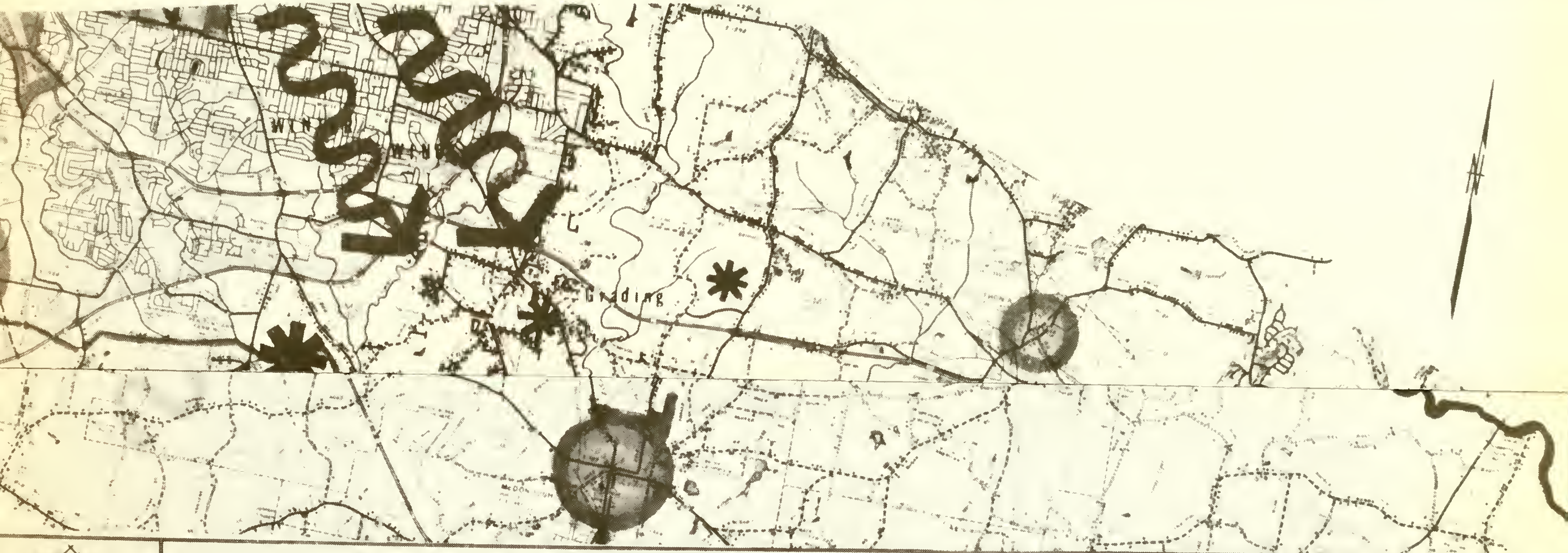
Precipitation

The driest month is October with a mean of 2.58 inches. The wettest month is March with a mean of 5.51 inches. The annual mean is 48.40 inches. In 1948 the annual mean rose to 71.45 inches due to a very wet March, July and November. The lowest recent mean was in 1954 when it only reached 31.80 inches. Snow has been observed during seven of the twelve months, but it occurs so rarely in measurable amounts that it is considered insignificant. Ice storms, freezing rain are a more common phenomena during the winter months. These storms are seldom intense and are short in duration and occur in narrow bands.

Winds

Surface winds are normally strong enough for adequate ventilation but seldom strong enough to be unpleasant. East to northeast winds during the colder months produce the most unpleasant weather in the area. These winds often bring raw, damp weather. Winds from the south are moist and warm year around. Summer temperatures are highest when warm dry winds come from a westerly direction.

local analysis



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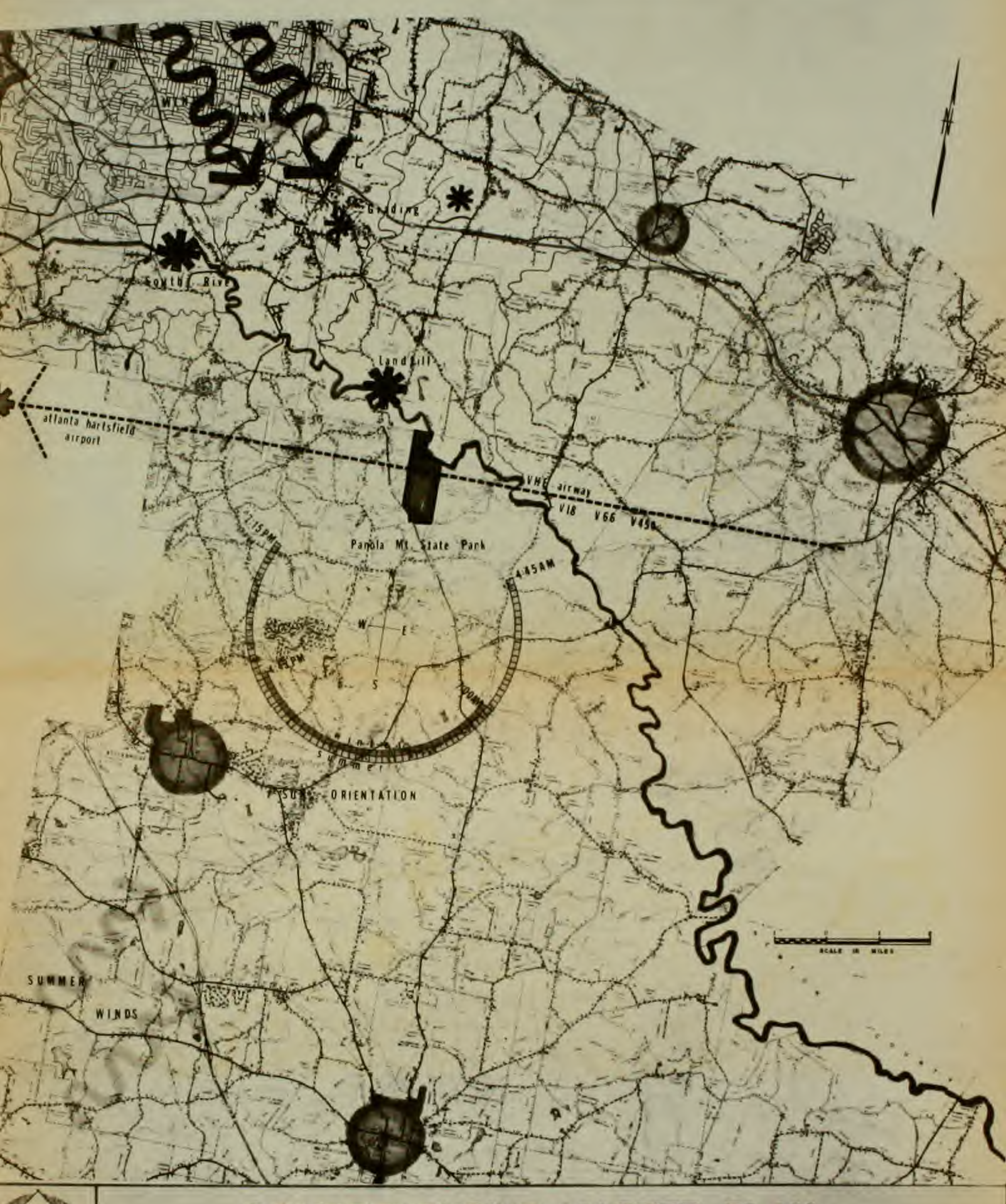
ENVIRON. INTRUSIONS & CLIMATE

PLATE
5

local analysis



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ENVIRON. INTRUSIONS & CLIMATE

PLATE
5

CHAPTER III

SITE ANALYSIS

This Chapter is concerned with the over-all site conditions, problems areas, areas of uniqueness and special interest. The information obtained in this Chapter will be used to determine the Land Utilization of Chapter IV and serves as the basis for the design criteria for the General Development Plan Chapter V.

SOILS ANALYSIS

The soils of the site are, of course, predominately those derived from Granite, Gneiss and Schist.

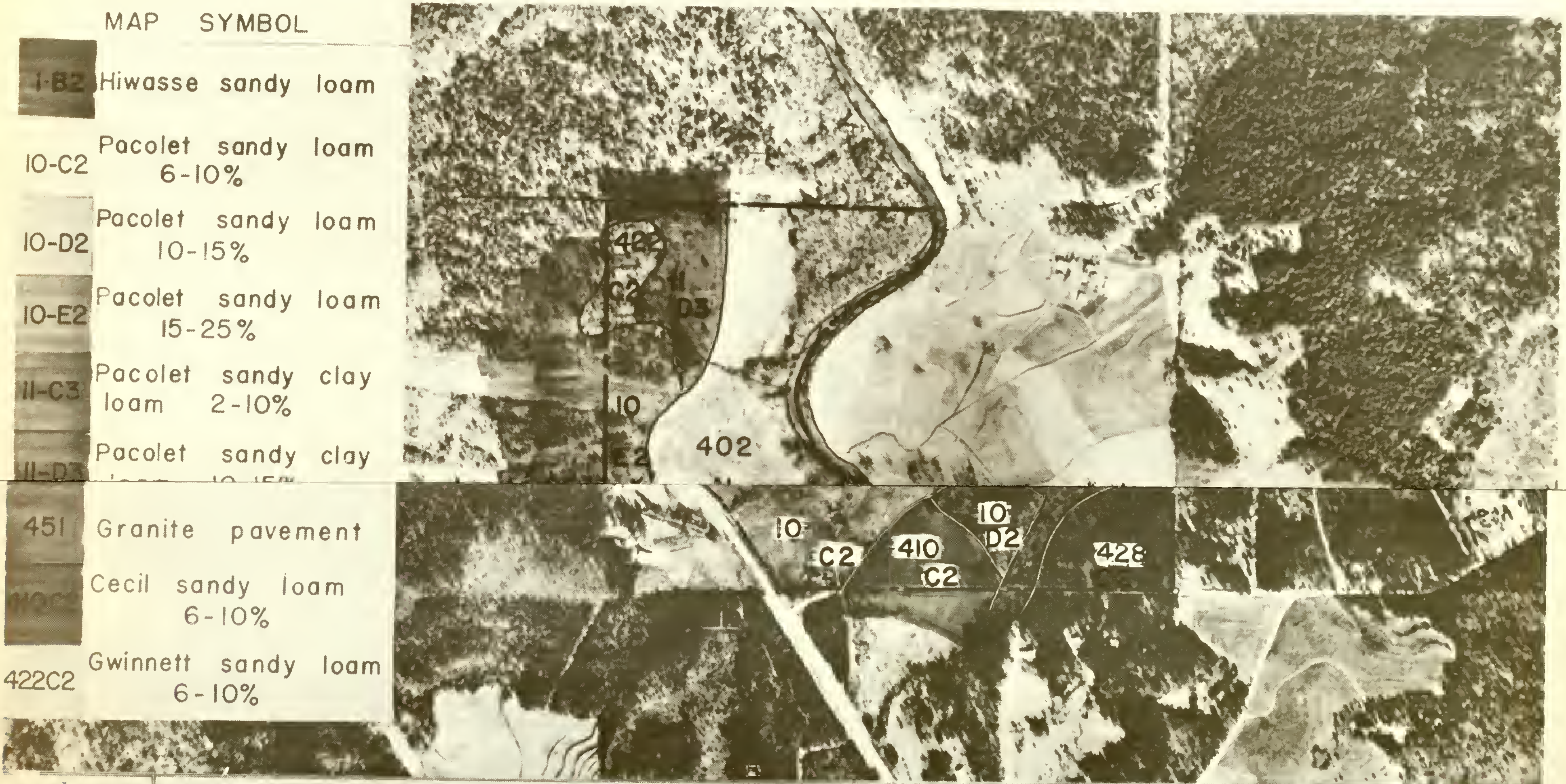
The purpose of the Soils Analysis is to determine what kinds of soils are on or adjacent to the site, where they are located and their interpretation as to use. From the interpretation of the soils, we can help determine such things as soils suitable for recreation use, road building, dams, nature trails, and the dangers of erosion, and flood hazards. The map symbol such as: 10-C2 determines soil type, % of slope, and erodability.

Example: 10-C2 Pacolet Sandy Loam 6-10% slope eroded
Gwinnett - Cecil Davidson Association
Gwinnett - Pacolet Louisburg Association, with
Congaree, Chewacla, Hiwasee, and Wilkes also found.

The following is the Soil Legend for Panola Mountain State Park:

1-B2	Hiwasee Sandy Loam	0- 2%	Slope
10-C2	Pacolet Sandy Loam	6-10%	Slope eroded
10-D2	Pacolet Sandy Loam	10-15%	Slope eroded
10-E2	Pacolet Sandy Loam	15-25%	Slope eroded
11-C3	Pacolet Sandy Loam(Clay)	2-10%	Slope severely eroded
11-C3	Pacolet Sandy Loam (Clay)	10-15%	Slope severely eroded
11-E3	Pacolet Sandy Loam(Clay)	15-25%	Slope severely eroded
402-A1	Congaree Sods	0- 2%	Frequently flooded
410-C2	Cecil Sandy Loam	6-10%	Slope eroded
411-C3	Cecil Sandy Clay Loam	2-10%	Slope severely eroded
415-C2	Davidson Sandy Loam	6-10%	Slope eroded
422-C2	Gwinnett Sandy Loam	10-25%	Slope eroded
422-D2	Gwinnett Sandy Loam	10-25%	Slope eroded
422-E2	Gwinnett Sandy Loam	10-25%	Slope eroded
428-C2	Louisburg Sandy Loam	10-25%	Slope eroded
428-D2	Louisburg Sandy Loam	10-25%	
429-C1	Louisburg Stony Loamy Sand	6-10%	Slope severely eroded
429-D1	Louisburg Stony Loamy Sand	10-15%	Slope severely eroded
429-E1	Louisburg Stony Loamy Sand	15-25%	Slope severely eroded
429-F1	Louisburg Stony Loamy Sand	25-30%	Slope severely eroded
438-B1	Congaree Soils		Local Alluvium
447-D2	Wilkes Stony Sandy Loam	10-15%	Slope eroded
447-E1	Wilkes Stony Sandy Loam	15-25%	Slope
447-E2	Wilkes Stony Sandy Loam	15-25%	Slope eroded
447-F1	Wilkes Stony Sandy Loam	25-30%	Slope
448-A1	Congaree Soil		Frequently flooded
449-A1	Chewacla Soil	0- 2%	Slope frequently flooded
451	Granite Pavement		
	Rock Outcrop		
	Boulders		

site analysis



MAP	SYMBOL
1-B2	Hiwasse sandy loam
10-C2	Pacolet sandy loam 6-10%
10-D2	Pacolet sandy loam 10-15%
10-E2	Pacolet sandy loam 15-25%
11-C3	Pacolet sandy clay loam 2-10%
11-D3	Pacolet sandy clay
451	Granite pavement
[illegible]	Cecil sandy loam 6-10%
422C2	Gwinnett sandy loam 6-10%

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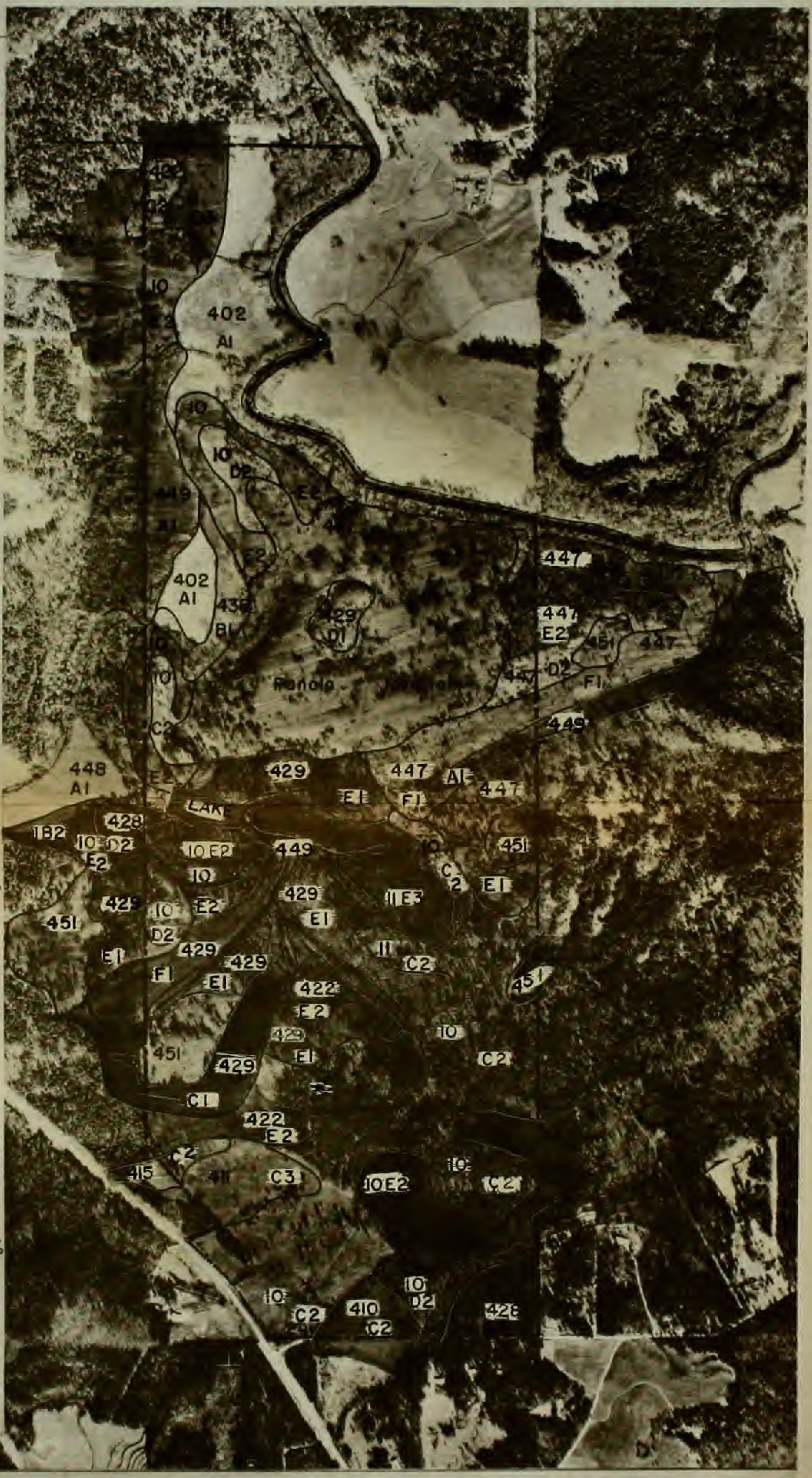
SOILS

PLATE

site analysis

MAP SYMBOL	
[illegible]	Hiwasse sandy loam
10-C2	Pacolet sandy loam 6-10%
10-D2	Pacolet sandy loam 10-15%
10-E2	Pacolet sandy loam 15-25%
11-C3	Pacolet sandy clay loam 2-10%
11-D[illegible]	Pacolet sandy clay loam 10-15%
	Pacolet sandy clay loam 15-25%
402A1	Congaree soils
411 C3	Cecil sandy clay loam 2-10%
415C2	Davidson sandy loam 6-10%
	Gwinnett sandy loam 10-25%
428C2	Louisburg sandy loam 6-10%
428D2	Louisburg sandy loam 10-25%
429 C1	Louisburg stony loam sand 6-10%
429D1	Louisburg stony loam sand 10-25%
429F1	Louisburg stony loamy sand 25-30%
438B1	Congaree soils
447D2	Wilkes stony sandy loam 10-15%
447E1	Wilkes stony sandy loam 15-20%
447E2	Wilkes stony sandy loam 15-20%
447 F1	Wilkes stony sandy loam 25-30%
448A1	Congaree soils frequently flood
449A1	Chewacla soils 0-2%
451	Granite pavement
	Cecil sandy loam 6-10%
422C2	Gwinnett sandy loam 6-10%



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SOILS

PLATE
6

The interpretation of different land uses that are a part of this report -- related the soil to its uses and limitation and a useful tool in preparing the land use and general development plans. Limitations that are interpreted help to avoid unnecessary cost in construction and maintenance. See Illustration Plate 6.

GEOLOGY ANALYSIS

The State of Georgia is divided into four major physicographic provinces on the basis of topography. Panola Mountain lies within the Piedmont province. This region is underlain by the oldest rocks in the state. These rocks, for the most part, are sediments which have been deeply buried in the past and subjected to high temperatures and pressures which altered the mineral assemblages and contorted the rock into complex and folded structures. Subsequent intrusions of igneous masses further deformed and altered the rocks. The rock units, for the most part, are referred to as biotite gneiss and schist of metamorphic origin and thought to be of Precambrian age; that is, 570 million to 1 billion years old.

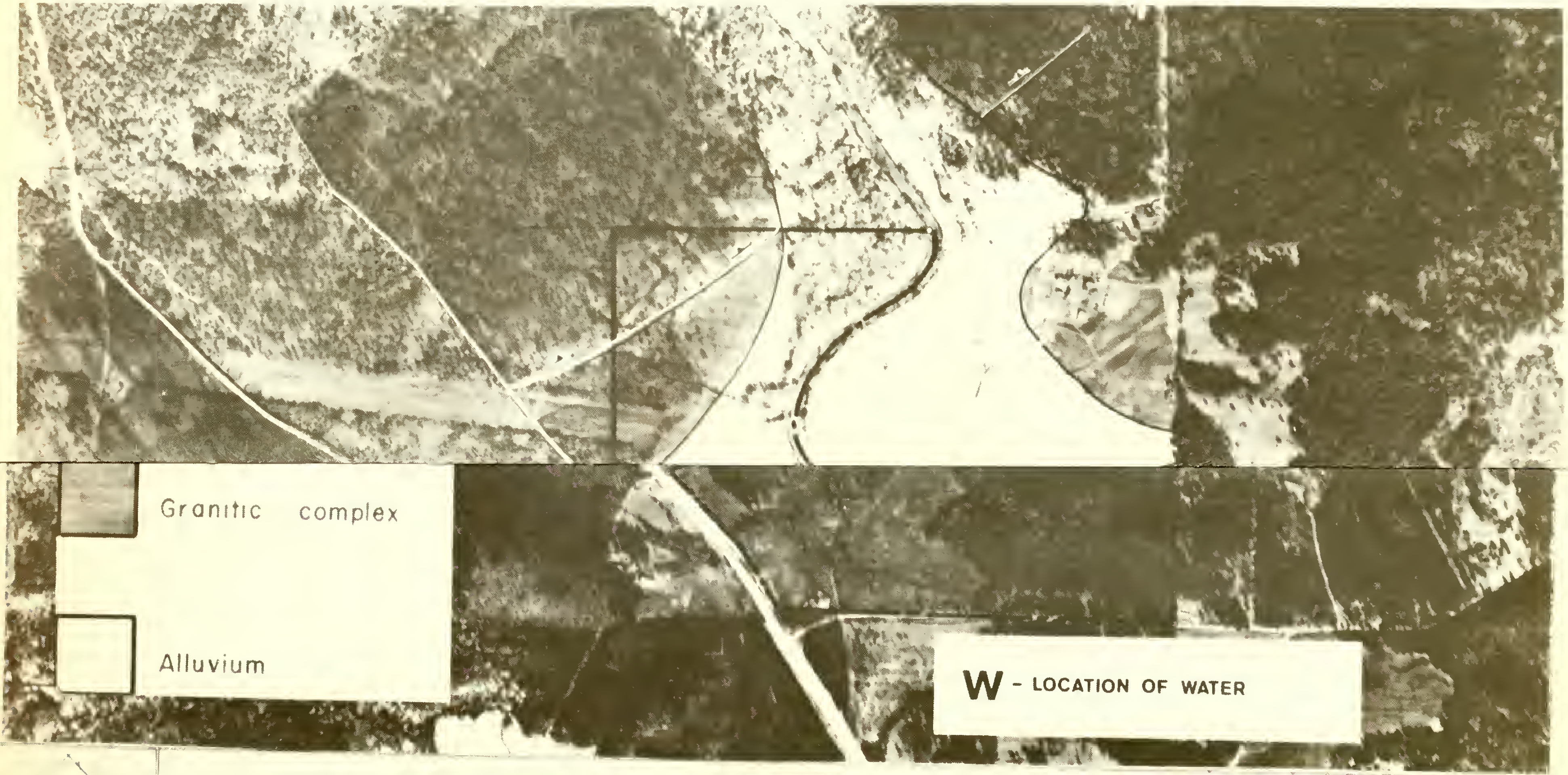
Panola Granite of Herrmann (1954) is classified as a minor rock unit which crops out of the southwestern part of Rockdale County forming a domeshaped mass intruded into porphyroblastic biotite gneiss. Panola Granite is composed of microcline, quartz, oligoclase, and biotite having pegmatite dikes of quartz and feldspar with clusters of tourmaline. The Panola Granite weathers to light gray to brownish red sandy saprolite. Exposures of the rock frequently occur as areas of "pavement" or bare rock, a characteristic it shares with the more predominate rock unit of Lithonia gneiss.

South River Alluvium is restricted to the flood plain and consists of stream deposited sands and gravels high in mica and quartz content. See Illustration Plate 7.

HYDROLOGY ANALYSIS

This section deals with the availability of ground water within the boundaries of the project area. Panola Granite is classified as a fractured and jointed rock, with small interslitial openings. Water storage and movement is limited to these fractures in the rock as Granite. Gneiss and Schist are extremely low in porosity and ordinarily classified as impervious. Fractures in the rock are a result of exfoliation, structural disturbances and weathering and occur most frequently in the slopes and valleys parallel to the surface of the rock. There is very little information available on the productivity of wells within the Panola Granite. Of those in existance, most appear to be satisfactory for

site analysis



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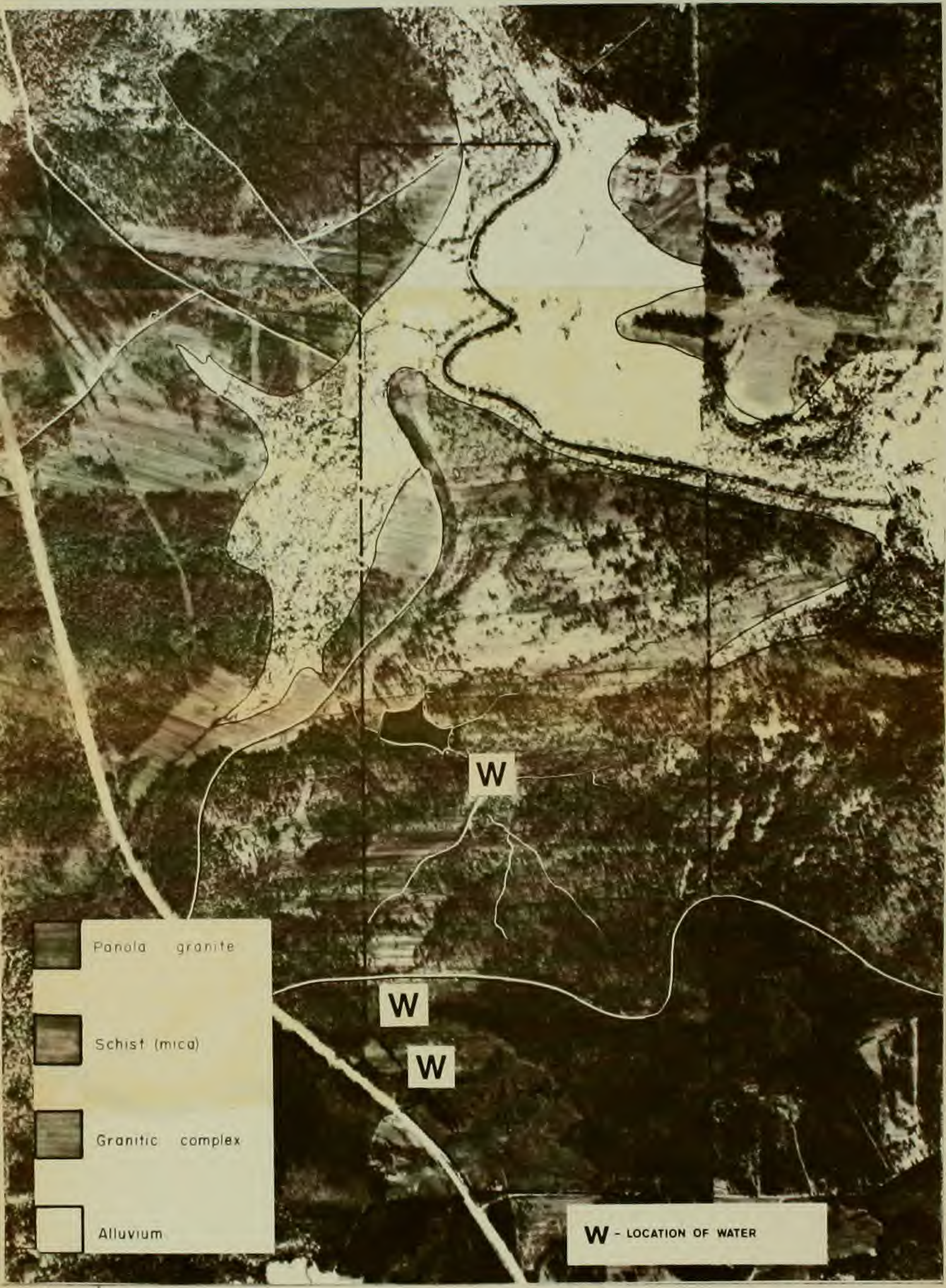
GEOLOGY & HYDROLOGY

PLATE

site analysis



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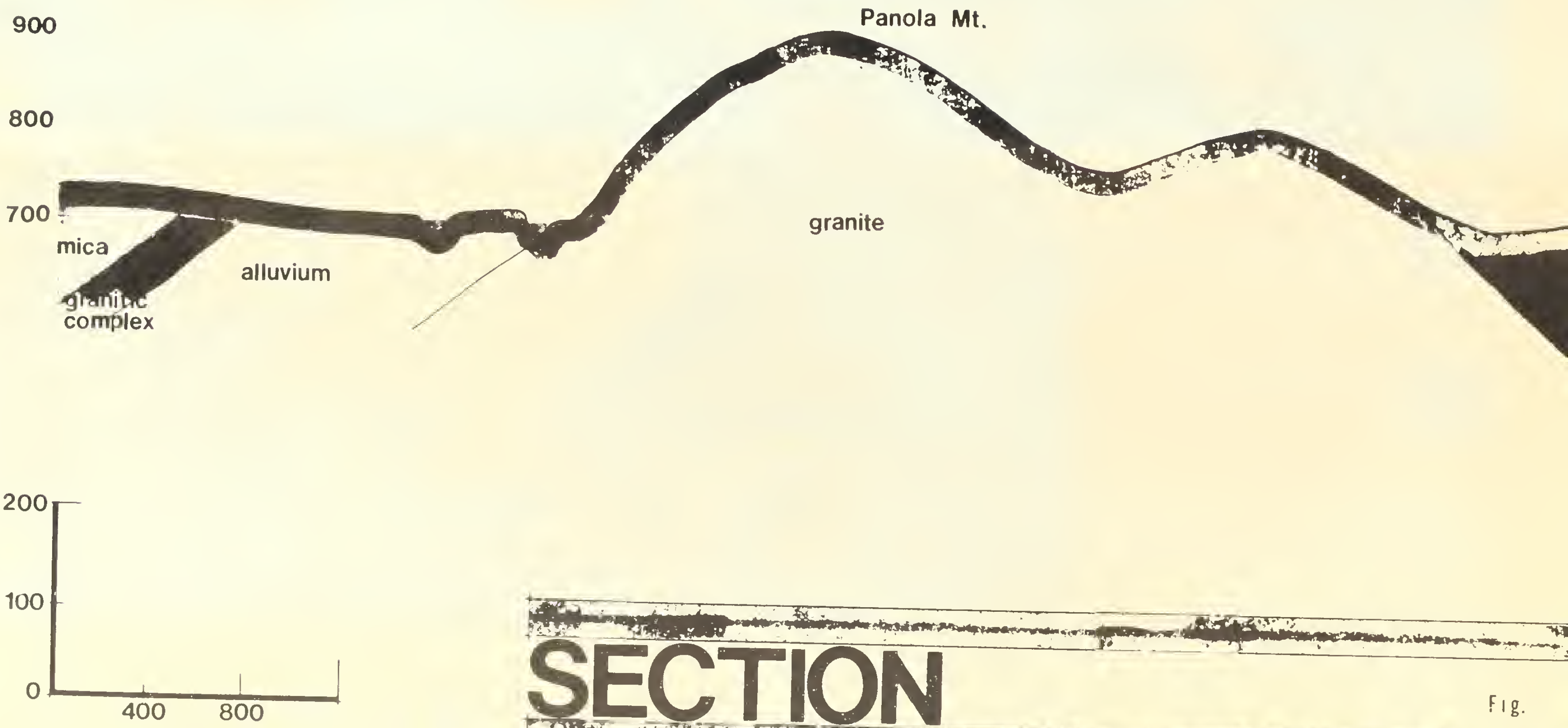
GEOLOGY & HYDROLOGY

PLATE
7



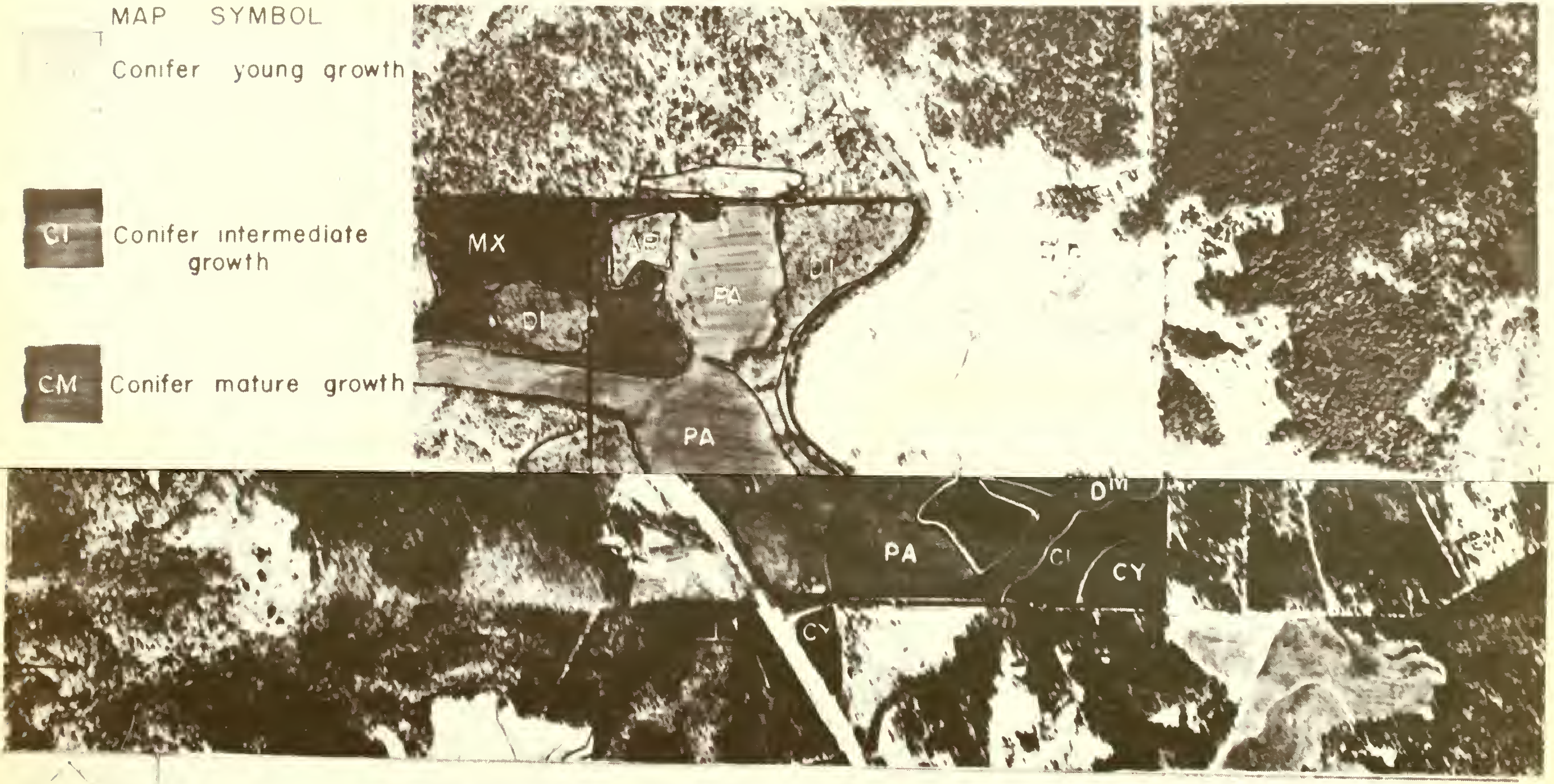
SECTION

Fig. 11

site analysis

MAP SYMBOL

	Conifer young growth
CI	Conifer intermediate growth
CM	Conifer mature growth



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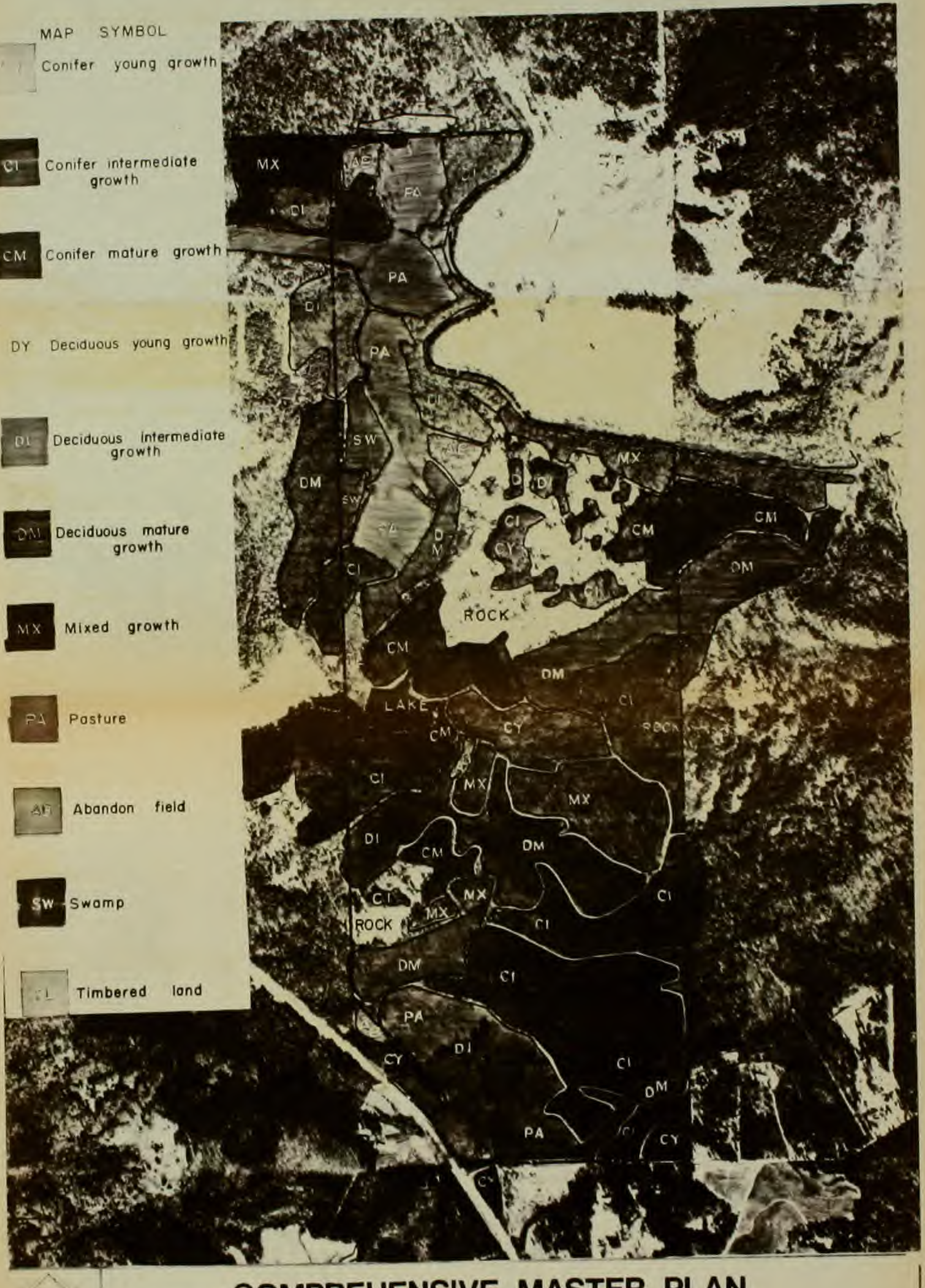
VEGETATION

PLATE



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VEGETATION

PLATE
8

domestic use. In conversations with hydrologist and local drillers, there is agreement that finding a reliable source will be dependent upon tapping the flow within the rock fractures. There is no assurance that new wells drilled in the area will give a satisfactory yield. The probability of success is improved provided the exploration is conducted in a valley and to a depth of 300 feet more or less. Park usage will be limited to some extent depending on economic feasibility of an adaquate quantity and quality of water available for use. See Illustration Plate 7.

SLOPE ANALYSIS

This section deals with the slope of the site. In an effort to assess the development possibilities of the land, a percentage of the slope of the terrain in topographic segments has been analyzed. These segments are based on a 20-foot contour interval and will be the average slope in these segments. A system of cataloging was established with a range of slope measured as follows:

0 - 3% - Frequently flooded
3 - 8% - Highest development possibility
8 - 15% - Highest development possibility
15 - 20% - Limited use
20 - 25% - Limited use
25 - 50% - Too steep for development
50 - Over - Too steep for development

Generally high intensive development should occur in the 3% to 8% range, moderate development should occur in the 0-3% and 8-15% slopes, and limited development should occur in the 15-20% slope areas and only if the soils are of a stable nature.

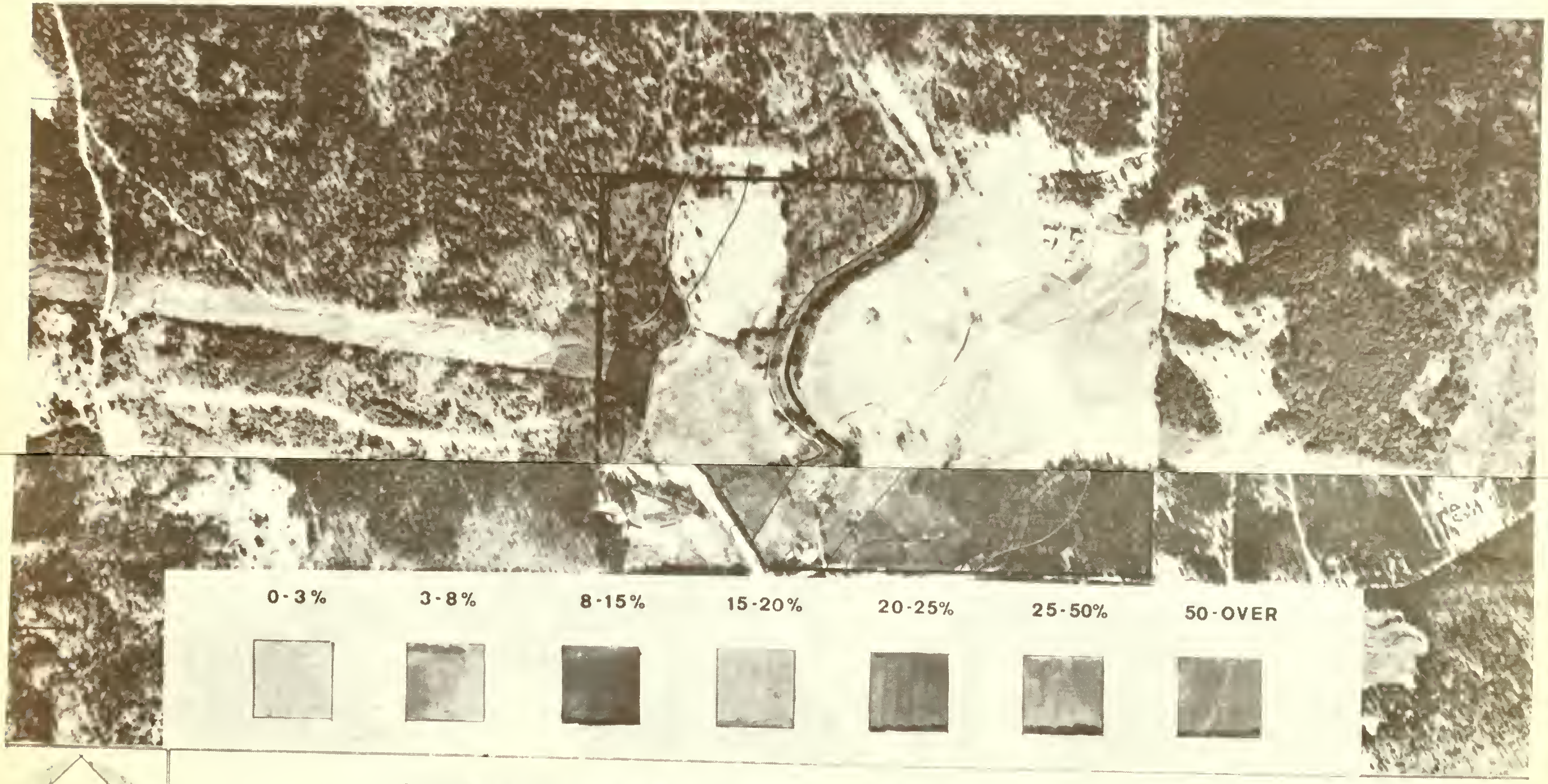
The 0-3% in most cases is located in the flood plain therefore should be limited in development.

FAUNA ANALYSIS

Wildlife is abundant at the park site due to adequate food and protective cover. Wildlife predominant in the Piedmont, such as white tail deer, red fox, rabbit, morning dove, quail, hawks, squirrels, etc., are in evidence here. The neighboring farms present a good supply of forage in the form of acorns, nuts, good browse and meadow grass. The hardwoods, pine stands, high meadow grass, swamp areas, fence rows, offer good cover for all types of animal, bird and reptile life. Streams, springs and ponds provide the environment for fish, insects, reptiles and animals.

A study of wildlife at the site is being prepared by the Georgia Game and Fish Department. This study will be conducted during an active season in the park and will be submitted at a later date. It should be helpful in the preparing of future programs and trail layouts.

site analysis



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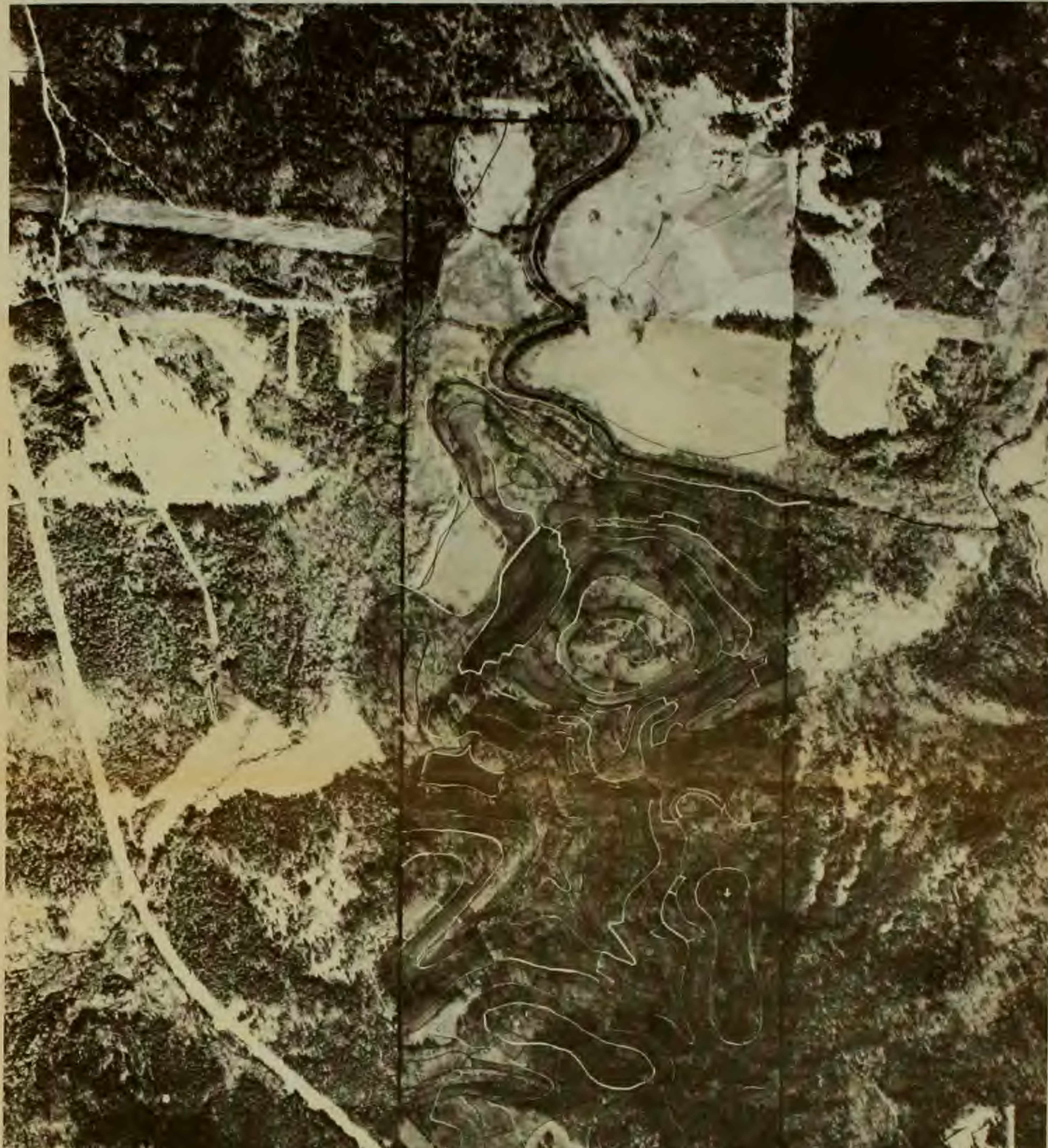
SLOPE

PLATE



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SLOPE

PLATE
9

SITE ANALYSIS

The preceding sections of this report have outline specific analysis of the site. This section deals with the combination of these areas of study and additional information as to problem areas, potential use areas, special interest areas and areas of importance.

This section has been coded to the site analysis plan. The numbered paragraphs in this report correspond to the same number on the site analysis plan.

A. Intersection of Ga. Highway 155 and Alexander Lake Road. Sight distance is fair. Private lands are located in both sides of this road and could cause problems of future development. At this time, properties are zoned residential.

B. Old Ga. Highway 155 location was Rockdale County-Henry County line. Drainage ditch does not line up with new 4' x 4' culvert under new road -- appears to be no problem at this time.

Approximately 50 + acres of meadow that was used as farm and pasture land. Meadow was burned over several years ago producing an extremely hot fire as evidenced by several trees scorched 20 - 30 feet up their trunk. There are several large loblolly pines in the field as well as sweetgum and poplar along the drainage ditches. There are several rock outcrop in the pasture; however, the soils in this area appear to have no problems from a development standpoint. White tail deer, red fox, quail, dove have been seen several times in the meadow.

The old Ga. 155 highway came through this cut. Young pines line both sides of the abandoned road.

C. Road through the meadow was used to give access to the meadow and other properties on the ridge.

In some areas, meadow is showing signs of succession. Small patches of sumac, oak, hickory, hawthorn and pine are springing up.

A deep revine running in a northwest-southeast direction is located here. Appears to be some 20-30 feet deep. Very large trees growing in revine, one fallen across revine must be 36" - 40" dia. Old moonshine still that has been abandoned is located here.

D. A small stream cut across the southeast corner of the property. Channel appears sufficient to handle runoff. Stream is reasonably clean with sand bottom. Stream area has honey suckle, alder, privet hedge, poplar and dogwood. How long stream drainage remains clean is in question.

Small parcel of land has pine stand of 10 - 12 to very small cut over area flat portion and reseeding naturally, and as grade drops off stream gallberry, water oak, devils walking stick can be found - Soil type is Louisburg which is very erodable.

At lower end of stream (8) appears to be a near climax forest, a type made up of white oak, black oak, sweetgum and poplars of mature growth. Trail along stream to where small cascades begins - understory is dogwood, yucca, vibrurnium, ferns.

Private residence - reported water for domestic use comes from stream because drilled well does not have water.

E. Transition area from nature hardwoods in stream to young and intermediate pine stands. Fire break line is in this area.

Jeep trail begins at meadow. This trail follows the ridge line to a point at the southern base of Panola Mountain.

This is the highest point in the meadow area - this also provides good vista of the surrounding country as well as a panoramic view of the meadow. The approximate elevation of this point is 895 feet above seal level. Slopes moderate and soil types present no development problems.

Ridge line and jeep trail. Having been out of timber this is now in an intermediate growth pattern of loblolly pine. The jeep trail is in this area long the ridge also large granite pavement areas are at the end of the ridge, the major portion of those are on private land.

This area was cut heavy in the park and is intermediate in growth on the upper slopes with young growth on the lower slopes. Erode drain diteches are evident with one extremely deep 20 ft. +.

F. The chimney of an old house stands as a lone monument to the past farm culture that once worked this meadow as farm land. Located near the fork of two old roads that are abandoned. The lower road served as the Henry County-Rockdale County line. Upper road seems to have gone toward South River.

Mature hardwood stand - White Oak, Chestnut and Black Oak, southern Red Oak - 20" - 30" dia. Possible location for water wells.

G. Granite outcrop at the end of the ridge. This is a very interesting area due to the growth of small lickens moss ferms and other plants on the rock surface.

High point on the ridge also the location of large bolders that have very large oaks growing up between them. Approximate deviation at this point is 915 feet above sea level.

H. This is an extremely eroded area with shallow (12 in.) to deep (15 ft.) ditches that are at an approximate 60° angle to the main thread of the stream bed. There is an old moonshine still at the edge of the stream bed. The water does not flow over land in the stream bed but goes under ground and reappear again, at the still area the water comes to the surface and stays there until its confluence with other similar streams. Large (30-40) poplars, white oaks, and black oaks line the stream area with large loblolly and short leaf pines on the steeper slopes up toward the ridge line. There are rock outcrops on the steeper slopes of this area.

I. Pond and Dam Area. There are four (4) structures that are existing in the Pond area:

A. Hexagonal gazebo - concrete block - wood frame picnic shelter poor-fair condition. Could possibly be used temporarily. Has barbecue grill.

B. Cottage - wood frame structure with fireplace - 3 bedrooms, living room, kitchen, bathroom, and screened porch. Oil heater and electricity. State has done some repair and glass replacement and rewuire the fuse box. Cottage is on septic tank. Appears in fair condition. Could possibly be used.

C. Cottage - Wood frame structure - 2 bedrooms, living room, kitchen, bathroom, upstairs attic - fireplace - on septic tank. Structure appears to be in poor shape - there is also a roofed screened picnic shelter adjacent to cottage that is in poor condition.

D. Cottage - wood frame structure - 2 bedroom, living room with fireplace, bathroom, kitchen. Cottage is in very poor to poor condition.

Pond and dam area. 3-3½ acre pond fed by the streams and runoff from the south side of Panola Mountain. Tests are being conducted by Georgia Fish and Game Commission to determine water quality, fish species and other wildlife associated with the pond. On the south side of the lake are the cottages and large loblolly pines along the pond shore. The north side of the pond, starting at the dam, has large bolders that extend into the pond. A cove is on the side of the pond that ends into a wall of rock. The remainder of the north side is moderately sloping with large pines. The depth of the pond is extimated at 14 feet and is reasonably clear; however, after heavy rains the pond becomes muddy. PH of water 6.3, Nitrate -0- high iron concentration.

This is a very beautiful draw - a stream that feeds the lake winds down through large boulders and mature hardwoods - although there are no cascades on the stream, the scale and space created by the boulders and trees is refreshing.

A small knoll at the end of the dam covered with intermediate to mature loblolly pines. Once the site of a cottage that burned, it has a vista of the lake and is the beginning of the trails to the top of Panola Mountain, and the trail to the north end of the site.

J. A knoll at base of South side of Panola Mountain gives access to Mountain. This is the terminus of the jeep road that begins at the meadow. The gap between two drainage areas is adjacent to this knoll draining southeast to the pond area and northeast to the South River.

A large hardwood cove area that extends down to the South River along the base of Panola Mountain. There is a trail located in this cove that begins at the gap and goes up the mountain on the east side. However, this trail enters private property to ascend the Mountain.

A long ridge extends from Panola Mountain down to the valley floor. The slope on this ridge is about 15% - 20%. There is reported to be an old log house on this ridge. This portion discovered with large loblolly pines. However, a large portion of this area is located on private property.

Panola Mountain - An approximately one hundred (100) acres, more or less, weathered granite rock Monadnock rising three hundred (300) feet, more or less, above the South River on the north. Panola Mountain is virtually an untouched granite rock unlike others in the area that have been either quarried or over-used for other reasons.

There exists excellent examples of the ecological chains on succession in soil pockets on the rock surfaces. As outlined in the Vegatation Analysis, this chain begins with small plants called Diamorpha to the 24" - 28" loblolly pines that are now growing on pockets of soil. These exposed rock surfaces and similar ones in the state have been studied for years and carbon-dated material on another location was about six hundred and seventy million years (670 m.) old. Apparently the same condition exists here. Besides the interest of the plant communities, the mere fact of the height with unrestricted visibility and solitude gives visitors to the Mountain a feeling of excitement.

Views of the City of Atlanta (on a day of low to moderate air pollution) to the north-east and Stone Mountain Park to the north can be seen. This feeling of solitude is usually shortlived due to the Flight Pattern to Atlanta-Hartsfield Airport. (Local Analysis - Environmental Intrusion Analysis). On some occasions, flights are from three to fifteen minutes apart, and as the jets fly over, their black exhaust can be seen. During lightning storms, Panola Mountain is not the place to be -- as dead pines struck by lightning around the edge of the Mountain can testify. However, woodpeckers have taken over these trees for their own use.

At the lower end of the knoll there is a field, and the swamp drains into a single stream bed that circles this small field and empties into the South River.

K. At the base of the steep northwest face of the Mountain is a mature hardwood stand that starts near the small knoll and traverses the mountain base to a larger knoll at the extreme northeast face of the mountain. This is a White Oak, Yellow Poplar, oak forest type with some very large specimens. Dogwoods are measured over ten (10) inches in diameter.

This area has a local allvium formed from the accelerated runoff from the Mountain.

Sheet metal cattle feeding barn recently built -- constructed of poles and wood frame with a galvanized skin. There is an upstairs hay storage area and feeding area beneath.

A large grass meadow of fescue that has not been cut in recent years and is showing signs of secession. Wildlife trails cross the meadow like a highway system.

Several of the trails seem to terminate at a point at the west side of the meadow at the base of the small rise in ground that the barn is on, which is also the edge of the swampy area.

This swampy area consists of two (2) sections, which begins behind the barn and runs in a northernly direction through a very heavily wooded area, which appears to be occasionally flooded, to a grassy, swampy area that appears to be flooded more frequently.

An extended knoll of moderate slope rises up from the drainage area of the meadow and swamp area to Panola Mountain. It is apparent from the terraces that this was farmed at one time. On the north side of the knoll adjacent to the South River these terraces appear to be only 18-20 feet wide and stop at the rock face. Looking back to the history of this part of thecountry, where lotteries were held, some farmers had to make the base of what they drew. This area has not been plowed, cleared or cut over in many years, and has pine, hawthorne, and other plants covering the terraces.

L. The South River, perhaps one of the most polluted rivers in Georgia, floods this area frequently even though there is a 12 ft. - 14 ft. band to the river. This is caused by a natural weir formed by Panola Mountain on the south side of this river and a small ridge on the north side, causing the river to concentrate at this point, there backing the flood water up. Due to the flood plan of this river, it would be advisable to limit the Park activities in this area. The South River is the property boundry as well as the DeKalb-Rockdale County lines.

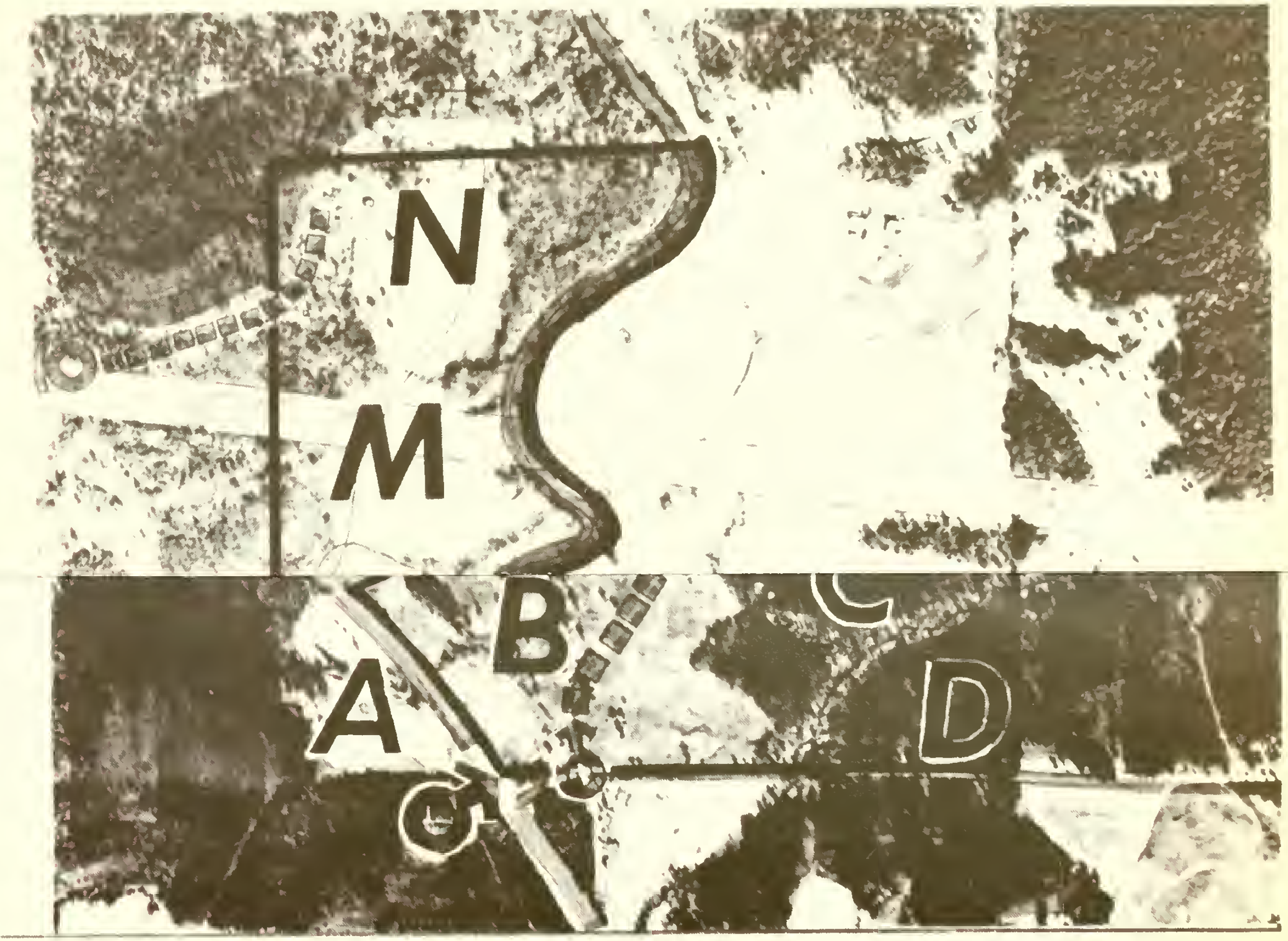
M. Georgia Power Company power line right-of-way. This is two hundred (200) feet wide and completely cleared of vegation periodically. The high tension lines are in an east-west direction on metal towers. There is evidence that the steep grade under the power line is being used as a motocycle climb.

N. The chimney and barn are all that remains of an old homeplace - on the extreme northern portion of the Park - an abandoned field that was once the garden area and probably the farm orchard. The north boundary of the property as well as being the DeKalb County-Rockdale County line. Little history is known of this farm.

site analysis

legend

- Entry Points
- Vehicular Movement
- Jeep Path
- Old Logging Road
- Pedestrian Path
- High Point Views
- Rock Outcropping
- Rock



NORTH

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SITE ANALYSIS

PLATE

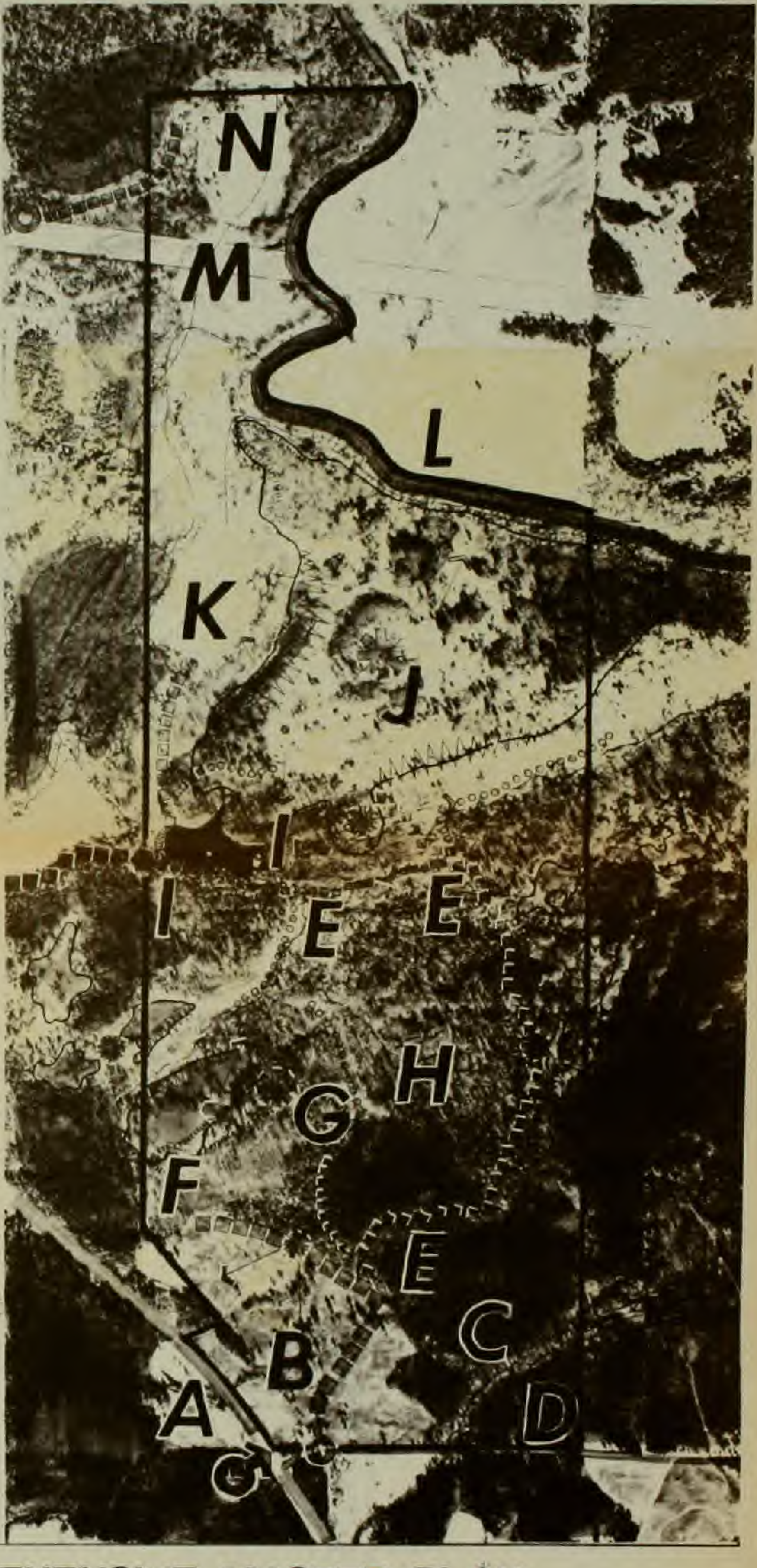
site analysis

legend

- Entry Points
- Vehicular Movement
- Jeep Path
- Old Logging Road
- Pedestrian Path
- High Point Views
- Rock Outcropping
- Ridge Line
- Steep Slope
- Flood Plains
- Vistas
- Property Line
- Rainwater Flow

A	Entry Areas
B	Meadow
C	Revine
D	Stream Area
E	Jeep Path
F	Old Chimmey Area
G	Hardwood Stand
H	Ridge & Rockoutcropping
I	Area of Erosion
J	Panola Mountain
K	Swamp & Field
L	South River
M	Georgia Power Line
N	Old Farm Site

- Evergreen
- Deciduous
- Rock



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SITE ANALYSIS

PLATE
10

CHAPTER IV

LAND USE ZONING ANALYSIS

This Chapter establishes the Land Use pattern of the Park and the type of development that will be allowable in the various zone areas.

LAND USE ZONING ANALYSIS

The preceeding Chapters illustrated the unique features of this site, problem areas, and in general outline areas that can be developed and those that should be avoided or at least be restricted from intensive use.

The Land Use Zoning Analysis clearly defines a zoning policy for the entire park. The zoning of the park is an essential part of the over-all planning and development (present and future). Based on the information collected in the site analysis, a system of zoning was established. There are three basic zoning areas that identify the amount of development and intensity of use that will take place there.

Zones:

A - Limited or controlled use zone.

B - Moderate or dispersed use zone.

C - Active or heavy use zone.

Buffer zone.

The criteria used in the design of these zones will be for ultimate development and should not exceed the design capacity of the site.

A - Limited or Controlled Use Zone

The areas designated "A" are those areas that are unique, special or susceptable to extensive use. Development in this area shall be with extreme care and the program shall be tailored to fit the carrying capacity of the trails.

The number of activity days shall be restricted and possibly reduced, but should never be extended.

In conventional parks, the number of activity days or the annual capacity is encouraged to increase each year. It must be remembered Panola Mountain is a special park which offers a new recreation experience. As stated in the previous chapters, some of the ares within the park are very sensitive to ecological change. Limited visitor use as well as the amount of development is allowed here.

Some of the uses allowed here would be:

- limited nature study
- minimal trails and paths
- photographic blinds
- strictly controlled visitor use
- special trail design and construction
- experimental and monitoring stations
- some hiking trails

B - Moderate or Dispersed Use Zone

The primary function of the park is to provide recreation activity for the citizens of Georgia and their visitors. This park has the unique distinction of being the first Georgia State Park to be oriented around passive recreation activities. The Moderate or Dispersal Use Zone B is the areas where the majority of the recreation education activity will occur. Recreation activity shall be limited to:

- Hiking trails
- Interpretation stations
- Vistas and overlooks
- Nature trails
- Signs and markers
- Service roads
- Benches
- Rest Stations
- Other facilities as might be needed to support the use.

C - Active or Heavy Use Zone

Within this zone the active recreation use will take place. The ultimate development that shall take place in this zone has been considered and should not be exceeded. Generally this zone shall contain the same facilities and activities that are normally found in conventional State Parks.

The facilities shall include:

- Entrance area and signs
- Contact station and control gate
- Park drive(s) and parking spaces
- Picnicing areas
- Play areas
- Walks, paths and service roads
- Buildings, Visitor center, superintendent's residence, maintenance complex
- Utilities

The active use shall be limited to this area and the guidlines established in the design criteria shall be used in the development of this area.

Buffers

Although not classified as a zone, these areas are an important part of the conservation of the park. They will be located around the perimeter of the park and in between areas of different zoning. These buffers will serve as screens, control, transition between use zones, beauty, and have wildlife value. They will be of help in reducing vandalism.

CHAPTER V

GENERAL SITE DEVELOPMENT PLAN

-AND

PROGRAM OF OPERATIONS

In this Chapter the background data and information was used to prepare an overall site development plan and the basic program from which to operate. Outline for staffing, phase and estimation of construction cost will also be presented.

GENERAL DEVELOPMENT PLAN

In this section the design criteria, design concepts and architectural concepts will be presented.

A. PARK ENTRANCE AREA

The Park Entrance Area gives the first impression of the Park concept to the visitor, therefore, should be functional as well as attractive.

This area includes, but is not limited to:

1. Park directional signs:

   Signs are located along highways beginning at major thoroughfares such as I-285 and I-20 Interstate Highways.

2. Park entrance approach signs:

   Located approximately 1000 feet from the entrance to the Park, these signs will inform Park visitors that the park entrance is 1000 feet ahead.

3. Park Entrance:

   The Park Entrance consists of a bi-functional road, two-lanes wide, that shall serve as backup space for access and egress. The ultimate design calls for the possible realignment of Ga. 155 and the additions of turning lanes, an acceleration lane and a deceleration lane.

   Security gates coordinated into the design of the entrance sign and fence.

   Contact Station - The contact station will be used to direct park visitors to the various areas of the park and if in the future an entrance fee or user fee is established, this will be the collection point. The station is located approximately 200 ft. from Ga. 155.

   A connector will be provided between the entrance road and exit road in rear of the contact station. As the capacity is reached, park visitors can be routed out through this connector. This will also serve as access by private drive to the maintenance complex and residence complex.

B. MAIN PARK DRIVE

The main park drive will follow as close as possible the natural lay of the land. Smooth curves and rounded slopes will be employed as much as possible trying to keep grading down to a minimum. There are approximately 0.6 miles of road. The main park drive is divided into two sections - one that serves the area designated for bus parking and the other for automobile parking. Turn-a-rounds are provided at the end of these drives for ease of egress. The parking bays have their entrances from these drives. The park drives are restricted to the active recreation zone of the park.

C. PARKING BAYS

The parking bays provide 100 parking spaces that serve two purposes: Provide parking for the visitors to the recreation-education zone and parking for the active recreation zone. The parking bays are to be designed with as much breaking up of large spaces of pavement as possible. This will be a more natural approach to the development as well as aestheticly pleasing when not at full capacity and will be more comfortable to the visitor. Earth mounds shall be employed where necessary to add to the aesthetics of the site.

D. PICNIC AREA

The picnic areas are located in the green spaces between the parking bays. This gives close proximity to parking, break up the parking areas and provides a pedestrial corridor to the visitor center. The rest station, group picnic shelter and play lots are located within the picnic areas. There are plans for 75 picnic units in the first phase of development with an ultimate capacity of 100 picnic units at the park.

The rest station will be architecturally compatible to the other structures of the park serving both men and women. The handicap will be considered in the designs.

The group shelter will provide space for picnicing as well as a fireplace for cooking.

Small children play lots of creative play design will be located within the picnic area.

By providing the green spaces between the parking bays and end the roads in turn-a-rounds, a park visitor may leave his car, picnic, walk to the visitor center, go on the nature trail and return to his car without having to cross any roads or parking bays -- maximum walking distance is 800 feet to the visitor center.

E. VISITOR'S CENTER

This building(s) shall serve as the focal point of the Park. Within this structure will be located restroom facilities, an information kiosk, exhibit area, an auditorium, park offices and a laborator and exhibit layout area.

The concept recommended for the exhibits to be contained here is based on the natural resources of Panola Mountain State Park and its immediate environs.

Some of the exhibits that are under consideration are:

Aquarium with fish taken from the park pond
Terrariums containing insects, small animals, plants
and reptiles taken from the area.
Display of animal tracks, photographs and
Quiz exhibits for sound, feel and sight.

The auditorium can be used for large groups, teacher training, introduction of the park and its primary function and a prerequisit to the use of the trails and other park facilities. Other uses might be in service training, park meetings, symposiums, seminars and lectures.

The laboratory shall be used in teacher training, exercises for older students and monitoring equipment.

F. MAINTENANCE COMPLEX

The maintenance complex is a small enclosed area for the housing of equipment and materials needed for the maintenance, and protection of the park. There will be a small maintenance building and shop and the pump house will be located in close proximity to the maintenance building to provide protection for the well, consolidation of building and consolidation of utilities.

G. RESIDENTIAL COMPLEX

The Superintendent's residence and the Asst. Superintendent's residence will be located here. They will have a good view of the recreation area and yet have privacy. The residence will not be the park office.

H. PROTECTIVE FENCE

An attractive fence, built of natural material, will be constructed from the visitor center to both sides separating the active and passive recreation areas. Supplemented with landscaping, the fence will be an attractive addition to the area. The protection of the natural area is important and control should be exercised.

I. HIKING TRAIL

Trail "A" is the primary hiking trail. At the terminus of Trail "A", there are two hiking trails - H-1 drops off the ridge in a northeast direction to a large hardwood stand. However, the true extent of this trail which eventually could loop the base of Panola Mountain cannot be developed because of the private lands through which the trail goes. W-2, beginning also in the gap, works its way down to the pond area. This trail must be located and constructed with care due to the highly erosive nature of the soil, and the steep slope of theterrain.

J. TRAIL SYSTEMS

There are three (3) primary trails systems and five (5) secondary trails.

The three primary trails will be designed to handle large visitor groups. These trails will have interpretive stations located on them and will be theme trails. That is, they will have a definite story to tell along the trail.

Loop Trail # 1

Major Features:

1. Lookout view of Panola and Stone Mountains
2. Primary Succession on Granite Outcrop
3. Mature Pine Forest
4. Upland Hardwood Forest

This trail begins at the Visitor's Center and passes through an even age pine stand resulting from secondary succession. The trail moves westward, slightly downslope to a small stand of large, mature pines. The trail then turns upslope to the margin of the surrounding countryside and Panola and Stone Mountains. The trail continues onto the granite outcrop, possibly through use of a raised walkway or other device. Primary succession, lichen distribution, island communities, and other important features of granite outcrops can be demonstrated. The visitor could then return over the same route or proceed on a loop trail which would traverse the ecotone area at the edge of the granite, through a hardwood forest containing many large oaks, downhill to a lowland area of mixed forest with dense underbrush. Ascending from this area, the trail passes through an even aged pine stand on a slope which shows evidence of former terracing and from there back to the Visitor's Center.

Loop Trail # 2

Major Features:

1. Even age management
2. Soil erosion
3. Forest practices
4. Watershed

This trail demonstrates man's impact on his environment and nature's recovery from such alterations. Beginning at the Visitor's Center this trail moves through the young even age pine stand on the ridge to an area that has in recent years been cut. Moving northeast along the contour the trail crosses several ditches. There are several theories of their origins. Small bridges and structures will be used to stabilize the trails. Following the edge of the ravine the trail passes thru the transition area of mature pines on the south slopes and mature hardwoods in the stream bottom. Turning across the ravine on a bridge the trail passes thru cut over land that has been left to self-generate. From this area the trail would return above the drainage area to the Visitor's Center.

Loop Trail # 3

Two Major Features:

1. Old Field Succession: plowed field to pine forest

2. Micro-watershed

This trail would go from the Visitor's Center to a demonstration area showing the succession of plants which grow in abandoned fields one, two and three years after cultivation ceases. This area would have to be maintained by yearly cultivation and other parts to maintain sections showing one, two, and three year stages of succession. From the demonstration plots, the trail would go along the edge of the present meadow and into the adjacent wooded area to illustrate two successional stages which would follow the stages illustrated in the demonstration area. At this point the visitor could continue on the watershed loop trail or return directly to the Visitor's Center by the same path he had just come. The present meadow area would need to be subjected to periodic controlled burning to prevent its changing from meadow to forest.

At the eastern edge of the meadow the trail would go into a bottom land, flood plain type forest along a small, relatively undisturbed and unpolluted stream. A short distance downstream the trail would swing uphill to a knoll overlooking a ravine which has apparently been cut by excessive runoff into the stream and at a right angle to it, but active erosion is no longer taking place. There is an old still at the edge of this ravine. The main stream and the trail proceed in the general direction of the "headwater" area of the ravine, digressing through a pine forest which shows evidence of former gullies now stabilized by a cover of pine needles from the pine canopy overhead. After swinging back to the edge of the ravine to observe the depth to which runoff water can cut into a slope, the trail would proceed to the top of this micro-watershed where an area of exposed granite forms the head of the gully. Near this point the trail would rejoin itself near the old field demonstration area.

K. POND AREA

The pond and its tributaries open the door to a completely different kind of recreation-education experience. So far, we have dealt mostly with the higher elevations, timber growth, meadows succession, soils and geology. Here would be the change to demonstrate the complete water study relating to the drainage areas above, life in the streams and ponds, the food chain, photographs of wildlife and many other aspects of nature and the ecology of the pond.

The gazebo at the head of the lake could serve as a temporary exhibit area, Cottage A could serve as a rest station facility during inclement weather as a monitoring station and general rest stop for park visitors. Maps, trail locations, etc., could be posted here.

L. WILDLIFE AREA TRAIL

At the little knoll across the dam from the cottage, a trail would lead to the Wildlife Area Trail. The barn could be converted into rest rooms facility in the bottom. This could serve as a shelter during inclement weather.

Due to the distance from the Visitor Center to the start of this area, this would be a place for the guide to reorganize the groups, tell what they might expect to see, and give instructions and information on the park and its intended use. Also, it will serve as a regrouping area prior to departure. The trail system within the wildlife area is not defined as in the other areas. The main group of people may want to break up for individual hiking, photographs, bird watching groups. The main trail to Panola Mountain will take off from here.

In the area of the swamp, a walk above the water will be provided so as to penetrate this area. Wildlife habitat will be introduced as well as game food plots and browse.

Wood duck, wood cock, snipe, turtle, deer would be observed in these areas.

An interesting area at the base of Panola Mountain is a local alluvium deposit. This has been formed by erosion of the granite mountain and also can be found here very large hardwood trees.

M. PANOLA MOUNTAIN TRAIL

A more detailed trail location, interpretive station location and trail design will be prepared in the construction phase. There will be extreme care taken in these locations and design in order that the unique characteristics are protected.

The trail will begin at the knoll in the Wildlife Area moving up the knoll and up the mountain. The grade is steeper than desired on the natural lay of the rock. A single main circular trail shall be used with vista, overlooks, trail markers, interpretive station all provided just off this main trail for ease of passage by other visitors.

A miscellaneous trail could serve several interesting interpretations of the ecology of the mountain, air and noise, pollution, weather, and general sighting.

N. STUDENT GUIDE SUMMER RESIDENCE

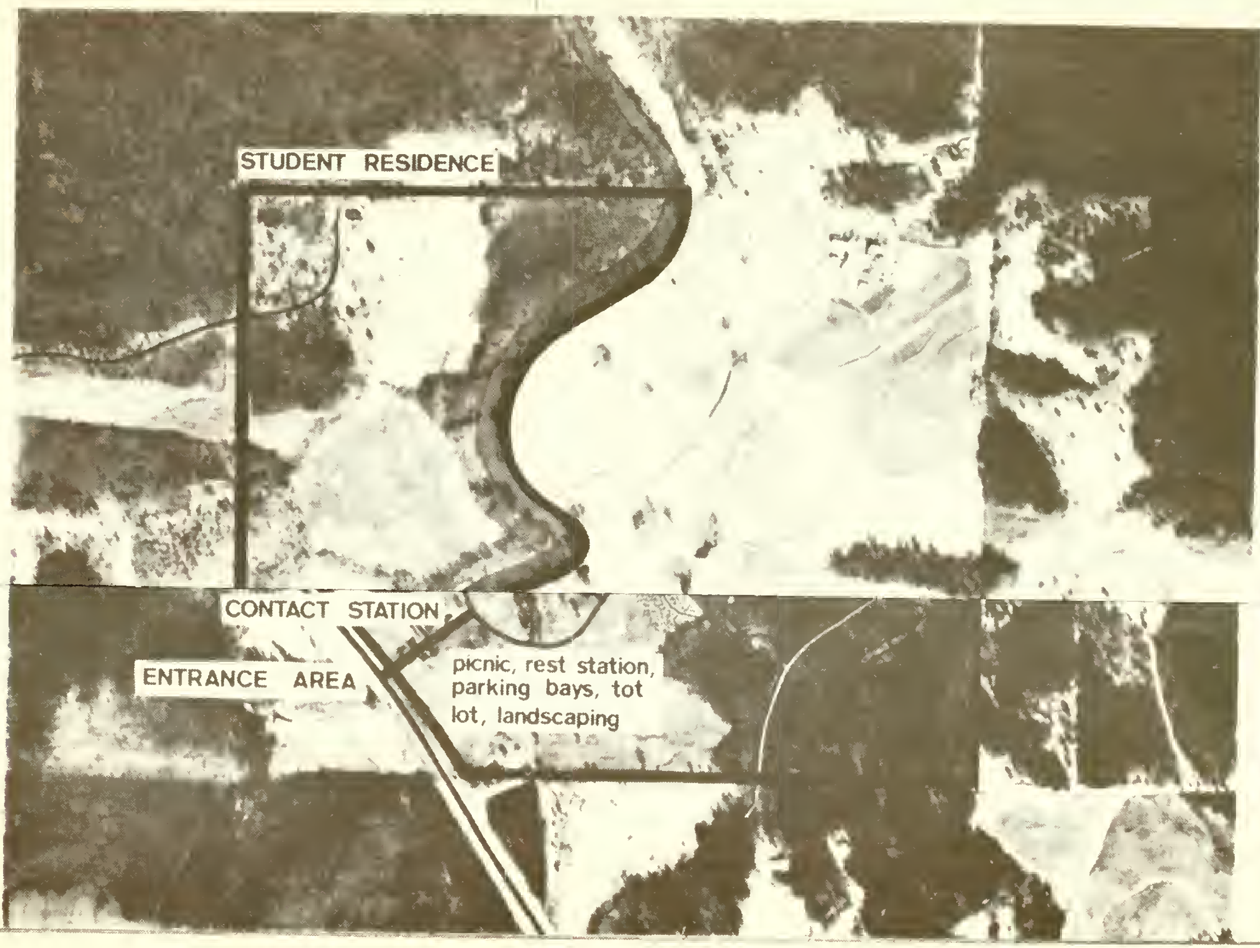
As the recreation-education increases to the maximum capacity, the need for a full staff of interpretive guides will also increase. As the planned program indicates, night use of some of the facilities as residences for a portion of the staff may prove a necessity. In addition, they will prove security for this, the most isolated portion of the Park.

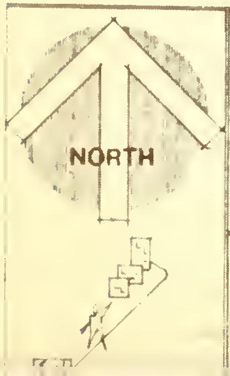
The general development plan and the program outlined here are by no means complete and are to be expanded on in the final report.

O. LANDSCAPING

To insure screening, reduction of noise, and erosion control and for beautification, land forms, plantings and structures will be employed. The entrance signs and fences, contact stations, road side zones and remainder of the area will be landscaped in a natural manner with native or naturalized plant materials.

planning analysis



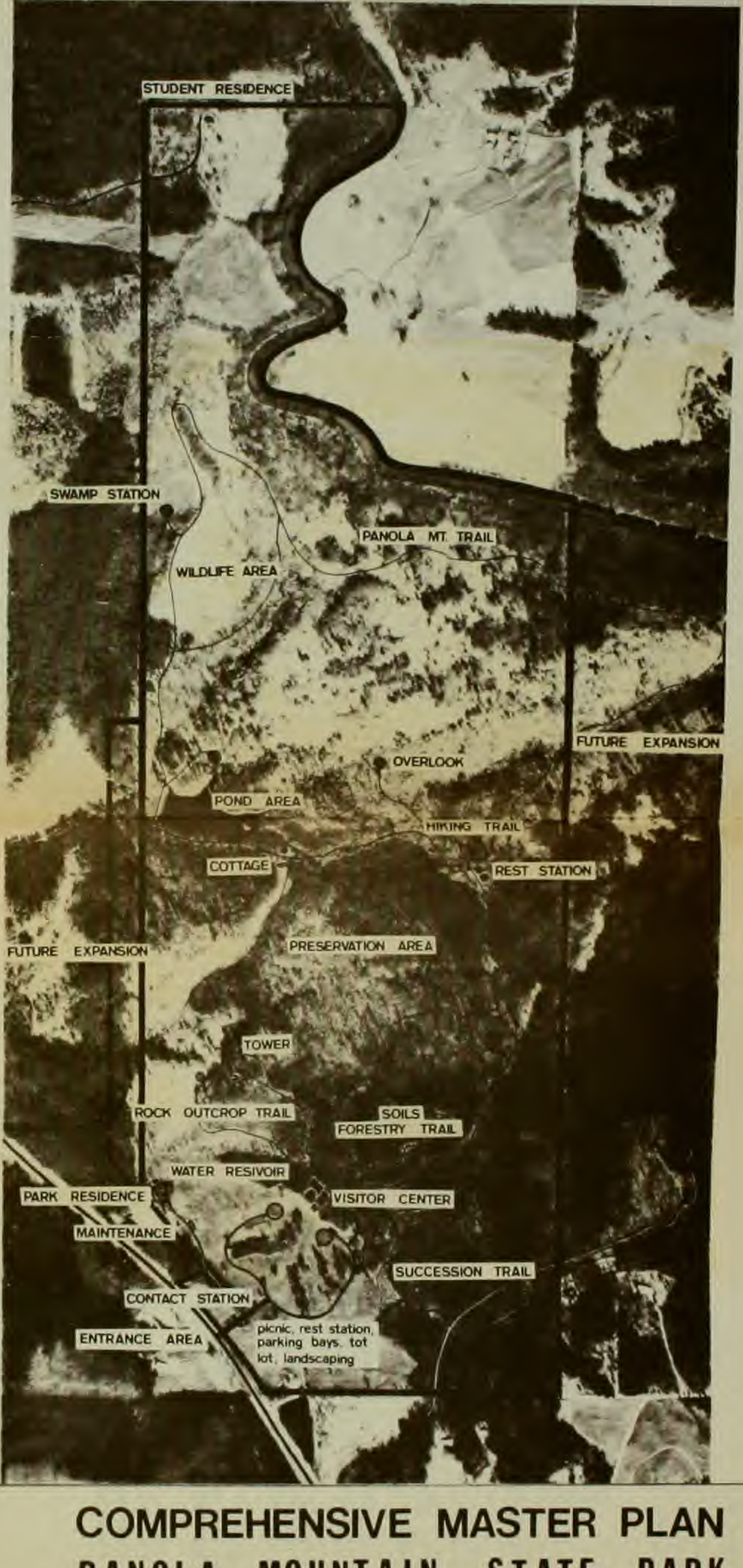


COMPREHENSIVE MASTER PLAN
PANOLA MOUNTAIN STATE PARK

ENVIRONMENTAL PLANNING & ENGINEERING
245 W. WIEUCA ROAD, N.E.
ATLANTA, GEORGIA

SITE PLAN

PLATE
12



NORTH

COMPREHENSIVE MASTER PLAN
PANOLA MOUNTAIN STATE PARK

ENVIRONMENTAL PLANNING & ENGINEERING
245 W. WIEUCA ROAD, N.E.
ATLANTA, GEORGIA

SITE PLAN

PLATE
12

DESIGN CRITERIA

This section deals with the Design Criteria for Panola Mountain State Park. This Criteria is of importance in establishing the character and nature of the park. It forms the basis of planning and design as well as furnishes a guide for future administration and management. The basic criteria is three planning controls:

Land Use Criteria
Water Supply and distribution criteria
Sewage Disposal criteria

In retrospect, the combination of physiographical conditions have showed that this site should have limited development. In this regard the following design criteria has been used in planning Panola Mountain State Park.

Interpretative Facilities: The primary function of these facilities is to provide a recreation-education experience for both enjoyment and enlightenment.

The majority of the Park visitors are coming specifically to use the Park for its intended purpose as defined in the section Program Development - Visitor Groups.

The Consultant has recommended that the maximum design load be 350 visitors at one time and a maximum daily capacity of 1050.

Rational: The design criteria is based on the actual number of persons that can be adequately served by the staff and not over use the area. While 350 visitors will be a maximum design load, it is anticipated that all visitors will not be participating in the same activities at the same time.

Time Distribution for Visitors:

Picnicking	30 - 45	minutes
Auditorium	30 - 45	minutes
Exhibits	30 - 45	minutes
Guided Trails	50	minutes
	120 - 185	minutes

The normal daily visit might be as shown; however, some activities may be omitted from a visitor's schedule and others substituted - examples: picnicking omitted going on two-three guided walks, or on a hike.

At this time, the Consultant can only anticipate the activities of the park visitor. An average turnover rate of 3 - 4 hours can be expected. The peak design load will occur between 11:00 A.M and 2:00 PM and will meet the design load of 350 visitors.

There will be 100 picnic tables based on 3.5 persons per family = 350 picnickers. It is approximated that 75% or 262 visitors will enter the Visitor's Center and Trail System.

Visitor Distribution during Peak Design Load.

	1st Hr.	2nd Hr.	3rd Hr.	4th Hr.
Active Rec. Area	146	88	120	262
Auditorium	60	80	55	---
Exhibits	60	82	55	24
Guided Trails	60	60	60	40
Other trails	24	60	60	24
	350	350	350	350

Interpretative Trails: There are three (3) main interpretative trails that will be lead by interpretative specialist. Each interpretative precialist can lead a group of 20 persons on a guided walk. Each guided walk will last approximately 50 minutes.

It is anticipated that during normal load periods there will be nine (9) conducted walks during a four hour period. However, during peak load, 12 conducted walks will be lead. This will require a maximum of 3 guides per hour for four hours or 240 persons.

Auditorium: The seating capacity for the auditorium shall be between 100-120 persons. However, during a normal day it is expected that approximately 60 persons per hour will use these facilities. Presentation showings will be scheduled every hour and will run for approximately 30 - 45 minutes with time allowed for visitors to enter and leave auditorium.

Exhibit Hall: The design of this facility will allow for both conducted or self-guided viewing of exhibits. The quality, quantity and arrangement of exhibits will actually determine the length of stay per visitor; anticipated length of stay per visitor - 30 - 45 minutes

Active Recreation Zone: Normal time period for visitors coming to the Park to use other facilities will be between 30-60 minutes -- that is, for a meal, use of rest station facilities, reloading car and walking to visitor center. This practice should be encouraged so as to not leave food materials on picnic tables during absence of entire family or user group.

Land Use Criteria:

Activity	Standard
Parking *	100 parking spaces x 3.5 persons per car for 350 visitors
Picnicking	100 picnic tables x 3.5 pers per table for 350 visitors

Group Shelter	One(1) shelter per ten(10) acres for 50 visitors.

* One (1) bus is equal to 8 cars. Parking for 4 buses is anticipated.

Park Drives, Parking Area and Trails:

Park Drives - All Park Drives and drives within parking lots will be typical flexible type pavement construction. Local sand and gravel or crushed-run stone for the base course, and plant mix bitiminous concrete surfacing. All main drives are to be designed for two way traffic with eighteen (18) feet surface and four (4) feet wide stabilized shoulders. The shoulders should be adequate to serve as all-weather walkways for pedestrians. No extensive grading would be required by any of the proposed roadways and only minimum grading would generally be required at parking areas. In most instances, road grades and alignment can be fitted to the existing topography without any difficulty.

Service Roads and Parking Areas - Service roads and one-way roads shall be 12 feet wide with four feet wide stabilized shoulders and shall serve as pedestrian walkways. Parking lots shall be fit into the natural terrain and into the treed areas. Spaces shall be left around trees to give sufficient growing space. A space 10 x 20 feet or 200 sq. ft. shall be used for each parking space. Surfacing for Service Roads and Parking Lots shall be a large stone aggregate with soil over the top then seeded. This will appear to be a part of the meadow when not full blending more naturally with the landscape.

Trails Systems - There are three types of trails to be constructed:

Type Trail	Dimension	Surface
Service Trail	8 foot width	same as surface road
Nature & Hiking	min. 2 ft. max 4.5 ft. wide	surface will vary depending on use. Examples: Chips, asphalt, stone, re-cycled material, etc.
Raised Trail	4 ft. width x 4 ft. modules	Expanded metal or wood lath or frames

All trails shall be constructed on less than 15% grade and shall be skidproof surfaces. Water runoff shall be controlled as much as possible. Water bars or erosion control devices shall be installed where necessary. Trails shall be worked in between trees when possible and no trees larger than 6" shall be removed unless absolutely necessary.

Water Supply and Distribution:

Water supply will be from wells. Wells or springs are the only source of water available in the immediate vicinity of the Park. The only form of treatment contemplated is chlorination. It is anticipated that wells can be drilled that will produce from 1 to 40 gallons per minute and probably 10 gallons per minute.

The water system will serve the entire park with storage suitable to meet one-day demand. Wells must be grouted to eliminate any possibility of contamination of water supply.

Water Use Criteria

Facilities	Quantity
Picnic Area	10 gallons/person/day
Visitor Information & Administration	50 gallons/employee/day
Auditorium and Exhibit Hall	5 gallons/person/day
Employee Residence	150 gallons/resident/day
Maintenance shop	20 gallons/employee/day

Sewage Disposal:

Based on the available soil data and infiltration tests for the area of the park, sewage disposal by underground methods, using septic tanks and nitrification fields, should be satisfactory. A package sewage treatment plant with disposal into the creek below the pond on the park property may be required if infiltration tests at the site of the rest station and visitors center indicate the soils are unsuitable. This method of sewage disposal will be coordinated with the Georgia Dept. of Public Health.

Sewage Flow Criteria

Picnic Area	8 gallons/person/day
Visitors Center & Administration	40 gallons/employee/day
Employee Residences	100 gallons/resident/day
Auditorium & Exhibit Hall	3 gallons/person/day
Maintenance & Shop Area	10 gallons/employee/day

Electrical Distribution:

It is recommended that an underground system of pre-assembled cable in duct be installed to distribute electrical energy throughout the park. Cables will be installed in the shoulders of roads with an access to manholes at 500 to 600 feet intervals. Electricity is to be supplied by Georgia Power Company or Snapping Sholes Rural Electric Co.

Telephone Communications:

Telephone service throughout the Park will be supplied by Southern Bell Telephone Company, underground if possible.

Landscaping and Planting:

It is not expected that any large program of landscaping and planting will be required since it is desired to maintain the natural features of the park as much as possible. Native or naturalized plant materials shall be used. In the large open meadows large areas of annual wild flowers shall be seeded as well as perannuals planted. This will add beauty as well as interest to the Park.

Architectural and Structural Design Criteria:

The overall design concept for all architectural element such as building, signs, light standards, fencing, bridges , overlook vistas, and other structures shall be compatible throughout the park. Materials shall be stained wood and natural granite used to gather in a rustic element.

Accommodations for the physically handicapped shall be taken into consideration in design and layout of all facilities. Structures will be designed to be aestheticly pleasing as well as functional. Maintenance of all structures shall be taken into consideration.

Additional Design Factors:

Storm Drainage

1. Method used to eliminate design runoff: Rational
2. Design frequency (just full) 10 year
3. Manning's "n"
    - a) smooth pipe 0.012
    - b) corr. Metal pipe 0.024
    - c) seeded ditch 0.03
    - d) sodded ditch 0.04
    - e) rubble ditch 0.06
4. Time of concentration - 10 min. to first inlet
5. Coefficient of Runoff
    - a) pavement 0.95
    - b) woodlands 0.25
    - c) grassed 0.40
6. Maximum allowable velocities
    - a) pipe outlets 10 f.p.s.
    - b) seeded ditch 2.5 f.p.s.
    - c) sodded ditch 4.5 f.p.s.
    - d) rubble ditch 10.0 f.p.s.
7. Minimum ditch slope: 0.003 ft/ft.
8. Min. pipe size: 15" dia.
9. Min. velocity in sewers: 2.5 f.p.s.
10. Max. length pipe between manholes or inlets: 350 feet.
11. Cover requirements
    - a) Min. under pavement: pavement thickness plus 3 feet.
    - b) Min. under unpaved areas: 2 feet.

Septic Tank Systems

Design in accordance with regulations by Georgia Department of Public Health.

PROGRAM DEVELOPMENT

This section deals primarily with the development of a program of operation for Panola Mountain State Park and its direct relation to the Administrative Services. The basic outline for programs and administration is recommended:

Visitor groups
Visitor schedule
Program content
Administration and Operation

Visitor Groups

Due to the nature of this development and the growing demand for this type recreation activity, visitation by various individuals and groups is certain. Special comments will be made by the consultant on special use groups.

Visiting can be expected by the following:

1. Casual visitor
2. Purposeful visitor
3. Special short interpretive programs
4. Special day programs
5. Educational groups - elementary, secondary and primary school groups.
6. Teacher workshops and teacher refresher program
7. Individual research programs
8. In service and pre-service training program for resident guides.

1. Casual Visitor: The casual visitor is usually one that more out of curiosity than any other reason visits the Park. This visitor may or may not participate in the activities that will be offered. No special program is necessary to facilitate this visitor. This type visitor would be classified as General Public, Individual, Families, Sunday Joy-riders.

2. Purposeful Visitor: The purposeful visitor is one that has some knowledge of the park and has an interest in what the park can offer and desires to improve his understanding rather than just fill time. Teachers, members of organizations getting a preview for future groups usage or individual(s) participating in a recreation activity. This type visitor will participate in almost all aspects of the program. This is a General Public Visitor.

3. Special Short Interpretive Program: A special presentation given to all visitors to the park on a scheduled basis. Although all park visitors are invited, special groups will probably be the major participants. Georgia Conservancy, Naturalist Groups, Sportmen Club, etc., are good examples. This program might occur in the evening. These visitors would be usually notified and classified as Special.

4. Special Day Programs: This program is something that is of a special nature and possibly will be a periodic experience. Several examples that can be offered are:

Removal of over-populated deer herds
Control buring of meadows
Planting of wildlife plots
Tree planting day
Tree thinning, prunning, etc.
Removal of wind, ice, lightning damaged trees

These types of activities could be of tremendous interest to certain groups such as 4H Clubs, Boy Scouts, nature clubs, etc. In some activities they could even participate.

These visitors would be Special Use Visitors.

5. Education Groups: This group would be made up of school classes. Arrangements with the Administrator of the Park would be made in advance. These groups would participate in nearly every program. The program would be coordinated with the school system and the officials. Pre-study information, literature, etc. would be made available to the groups. Phasing the various programs for the different age groups would be established so as to make the experience fun as well as enlightening.

6. Teachers Workship and Teacher Refresher Programs: In relation to the above, it is most imperative that the teachers that will be in charge of the education groups be qualified. The person(s) to handle these groups may be a teacher from each school or a specialist employed by the school district for that purpose. The workshops session be given during non-education use periods. Although held annually, reference material and study aids will be available. This group would be classified as Special Group.

7. Individual Research Programs: In the past, professors and students from several colleges and universities in the area have been conducting research on Panola Mountain. This type research could be continued as well as research in recreation and related recreation-education field. These activities will have to be coordinated between the administration and the participating colleges and universities. Special permission then could be arranged. This group would be a Special Use Group.

8. In-Service and Pre-Service Training Programs for Resident Interpretive Specialist Park Personnel. As a prerequisite to the instrumentation of the preceeding programs, intensive instruction and preparation of interpretive specialist, guides and other park personnel is a must. Although this group might participate in the workshops and reference courses, here they will receive more detailed training and instruction in specific areas. This group would be classified as Special Use Group.

VISITOR SCHEDULE

There are four main time components that the park facilities will be open for use:

1) The school year - Monday through Friday for Public Use

2) The school year - Monday through Friday for Special Use

3) Weekends and Vacations - Public Use

4) Weekends and Vacations - Special Use

General Public Use Schedule

The Park facilities will be open generally from 7:30 AM to 10:30 PM. The General Public will have access to the Park and its facilities without reservations, except when in the judgment of the administration that safety and welfare of the Park visitor or park facilities are endangered. Examples might be severe lightning storm or very serious fire conditions during drought.

Special User Group Schedule

This group will be requested to contact the administration and obtain reservations or special permits in order to take full advantage of the Park and its facilities.

Education Groups Schedule

These groups will probably be large groups of 30 - 40 children and scheduling of this type of group is imperative. In the case of the education groups, the Park administration should coordinate all functions of the special group activities in order to assure there is ample preparation and reservations are made.

Due to the delicate nature of this park, this scheduling of user groups is most important. The park must operate with a minimum staff; however, provide the services that would insure each visitor enjoyment from his experience at the park.

PROGRAM CONTENT

Panola Mountain State Park has the opportunity of offering activities in recreation-education and nature study. The activities will be centered around 7 programs:

1. Visitor's Center
2. Ecology Trail
3. Forestry-Soils Trail
4. Succession Trail
5. Pond Resources
6. Wildlife Resources
7. Panola Mountain Trail

1. Visitor's Center: The visitors center is a structure or structures that will be used to introduce the park visitor to the activities and facilities of the park.

Information Kiosk - As the visitor enters the Visitor's Center, a small information kiosk will be available to disperse literature, give directions, and as an information board for scheduled guided hikes, walks and events. Restrooms are located nearby.

Auditorium - During normal operation, the visitor will enter the auditorium. A brief presentation with slides and recording on the history of the park and its development will be given. Direction to the exhibit halls is given leaving from the exit. This group can tour the exhibit hall or move on to the scheduled tour. The auditorium will also function as the conference center for special groups and workshops, scheduled as to not interfere with the normal park operations.

Exhibit Hall - Exhibits relating to the Panola Mountain State Park will be used. Exhibits relating to man and environment, history, wildlife, diorama of geology are a few of the interesting exhibits here.

Quiz Exhibits -

Sound - with earphones and recordings of sound heard at the park let the visitor push a button, guess what the sound is, then light up a picture of the sound producer and tell what the sound is.

Feel - Have hand holes with objects in them - guess what they are, then light up the object for identification. Recording could also be used.

These would be good for small children as well as blind persons.

Laboratory - Facilities to conduct research, display exhibits and experiments. These facilities can be used for special groups, in service training, workshops, during conferences. During inclement weather, these facilities can serve as interpretative stations. Staff offices will be located in conjunction with these facilities.

2. Ecology Trail: Here is a great opportunity to demonstrate several life process work. This trail will lend itself to programs in

Ecology
Geology
Waterhed
Sight-seeing
Botany
Micro-Climates

Conducted by interpretive specialist, the park visitor will be guided along this trail stopping at various interpretive stations along the way to view something interesting and relating to the ecology.

3. Forestry-Soil Trail: Due to the variety of plant material, timber and pulp wood practices and erosion, the site offers interpretive stations in:

Forestry Practices
Forest Canopy
Forest Groups
Soil erosion and stabilization
Entomology
Conservation
Watershed

The interpretive specialist will lead a group through this trail area. Although the trail is a theme trail, the specialist will be able in most cases to add his own additional points of interest during seasonal change.

4. Succession Trail: A most interesting opportunity to exhibit plant seccession. This program will include points of interest in:

History
Plant succession
Watershed
Soil conservation

The interpretative specialist will explain old farming practices, how a watershed works and explain the working of the wiskey still. Of course, the story of plant succession is of prime importance.

5. Hiking Trail: The hiking trail leads to other various trails, exhibit areas and interpretive stations. Individuals may on occasion hike away from this trail, but restriction should be placed on this and encourage the hikers to remain on the trail system. One such trail leads down to the Pond Resources Area, Wild Life Resources Area and Panola Mountain Trail Area.

5. Pond Resources: This area would be primarily for research and speciment exhibits to be used in the exhibit hall. Also, the cottage would serve as a rest station and could have enjoyment for exhibits planted on Panola Mountain. Special interest groups and advanced groups, would find interest in:

Aquatic Biology
Water Pollution
Wildlife biology
Entomology

and many other water oriented studies. After some of the studies have been completed, then future conducted tours for groups could be possible.

6. Wildlife Resources: This program is geared to special use groups and will offer activity and interpretation of:

Wildlife Habitat
Game food plot management
Wildlife Photography
Water pollution and monitering
Soil conservation
Plant succession

An interpretive specialist would escort the individuals or group to the Wildlife Area and there would conduct a guided tour or allow them to seek their own interests.

7. Panola Mountain Trail: Probably the most dynamic part of the Park yet the most delicate in Panola Mountain. Combining a spectacular view of Stone Mountain, City of Atlanta and surrounding countryside with its ecological phenomena, this area will offer a tremendous experience to recreationalist, naturalist, hobbiest, and educator. Subjects of interest would be:

Micro-Climates
Astronomy
Air Pollution
Noise Pollution
Metorology
Geology
Ecology

Monitoring equipment for noise and air pollution, weather and metorology could be located in select areas so as not to harm the environment and relay information to the Visitor Center and exhibits. Strict control must be employed in the use of these facilities and only special permission would allow any research study on this mountain.

DAILY CAPACITY

The Consultant estimates that the maximum daily capacity for Panola Mountain State Park is 1050 visitors per day. The design load is 350 visitors at any given time in the park. This is also the maximum number of visitors that should be allowed in the park at one time. The Consultant feels that this is the maximum safe daily capacity that the resources can withstand and sufficiently recover during periods of non-use.

ADMINISTRATION AND OPERATION

The implementation of these programs can only be carried out with a competent staff.

Park Personnel

Park Superintendent (Program Director)

- Qualifications:
  - Experienced in Recreation-Education
  - College degree in Resource Sciences or recreation management, conservation or outdoor education
- Responsibility:
  - Assign personnel and tasks
  - Plan Budget
  - Place orders for equipment, supplies, materials or delegate such authority
  - Arrange registration procedures
  - Coordinate special uses and use groups
  - Establishes programs
  - Supervises and trains staff
  - Maintains records
  - Checks building, equipment and other facilities
  - Makes final evaluation reports and keeps records
  - Aids in establishing use areas with other agencies and groups

Assistant Park Superintendent

- Qualifications:
  - Experience and background in park operation and maintenance
  - College degree in park maintenance
- Responsibility:
  - Assist Park Superintendent in assigning personnel.
  - Submit budget request for operations and maintenance
  - Advise Superintendent as to needs in equipment, supplies, etc.
  - Assure building, equipment and other facilities are kept in good condition.
  - Supervises maintenance of park and its facilities.

Park Naturalist

- Qualifications:
  - Experience in Recreation, conservation or outdoor education or related natural resources.
  - Degree in natural resources or related field.

ADMINISTRATION AND [illegible]

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Responsibility: Assist Park Superintendent in assigning personnel and task in interpretative programs
Help establish programs
Assist in instructions and training of staff members.
Assist in coordination of special use groups.
Keep records of visitor groups and visitor schedules
Keep time records on personnel.

Laboratory Specialist
Qualification: Experienced in wildlife biology, ecology, related science profession
College degree in Biology, Ecology, Botany, etc.

Responsibility: Assist Park Superintendent in assigning personnel and tasks.
Assist in preparation of exhibits and their upkeep.
Conduct field laboratory for interpretative stations.
Assist Park Superintendent in coordinating special group or special visitor use.
Assist in training programs for assistants, interpretative specialist, etc.
Assist in operation of laboratories and experimentation also special events.

Interpretative Specialist
Qualification: Experience - none
College - at least sophomore with major in natural sciences

Responsibility: Assist Park Naturalist in preparing programs
Conduct guided tours along trail systems
Help in up-dating programs as change occurs
Report problems of maintenance and vandalism
Assist in training and workshop programs
Assist in special programs and with special visitors groups.

Asst. Laboratory Specialist
Qualification: As above.
Responsibility: Assist Laboratory Specialist in conducting experiments and research projects
Assist Special Visitor groups in research projects
Report problems of maintenance and vandalism.
Assist in training and workshop programs
Assist in recording research and experiment data.

Other personnel such as Secretary, Receptionist, Phone Operator, laborers, etc. are also needed. Their qualification and responsibility is not needed to be explained in detail.

OPERATION COST ANNUAL

This section deals with the anticipated operation cost for the total development.

ADMINISTRATION COST

PERSONNEL	NUMBER		SALARY		TOTAL
	Full-time	Part-time	Full-time	Part-time	
Operations Section					
Park Superintendent	1		12,000		12,000
Asst. Park Superintendent	1		7,500		7,500
Secretary	1		5,000		5,000
Clerk-Typist	1	1	4,000	2,000	6,000
Receptionist		1*		2,000	2,000
Phone Operator	1		4,000		4,000
Nurse	1		7,000		7,000
Janitor	1	1	5,000	2,000	7,000
Grounds Foreman	1		5,500		5,500
Laborers	1	1	4,000	2,000	6,000
Building Foreman	1		5,500		5,500
Laborers	1	1	4,000	2,000	6,000
Interpretative and Laboratory Section					
Park Naturalist	1		7,500		7,500
Interpretative Specialist	3	4*	6,000	2,000	26,000
Laboratory Specialist	1		7,500		7,500
Asst. Lab Specialist	2	2*	6,000	2,000	16,000
Benefits - Insurance, Health, Social Security					12,000
			TOTAL:		$142,500

* These positions could be filled by volunteers.

In addition to the receptionist as a volunteer, it is hoped that several of the Interpretation Specialist will be volunteers also.

OPERATIONS COST ANNUAL (CONT.D).

Service Section	Initial	Annual Cost
Telephone Expenses		$ 2,000
Office Expenses (Stationery, postage, printing, etc.)		3,000
Miscellaenous Expenses (repairs, laundry, outside services)		4,000
Supplies (fuels, materials, seed fertilizer, etc.)	$ 2,000	6,000
Utilities		1,200
Equipment (mowers, pick-up truck, etc)	30,000	3,000
Equipment (laboratory, etc.)	6,000	2,000
Exhibits	25,000	5,000
	$ 61,000	$ 26,500

Operational income - Annual

The concept of design is such that if at some time there is: a user fee, entrance fee or some other monetary charge for use. The contact station and the information kiosk are arranged to receive such fees when the need arises.

Local school districts that plan to use these facilities annually may donate equipment, operating capital, personnel and work.

Colleges and universities would be able to assist through grants, donations, etc.

The Georgia Department of State Parks should not be responsible for the funding of this entire operation.

CONSTRUCTION PHASING & COST ESTIMATE

This section deals with the phasing of the development based on the amount of funds under obligation by the State and on thenecessity of certain support facilities that are needed in the initial development. Subsequent phasing and cost analysis is contained in this section also.

The construction costs are grouped by function and include all site features and where applicable all interior furnishings. Planning, designing, engineering, supervising, surveys and related procedures are included under administrative cost.

CONSTRUCTION COST

	Total Cost	Phase I	Phase II	Phase III	Phase IV
Entrance Area					
Entrance Sign & Fence	$10,000	1,500	3,500	3,000	2,000
Contact Station & Gate	10,000	-----	10,000	-----	-----
Entrance Road	7,000	3,100	3,900		
Ga. Hwy. 155 Redesign	40,000	-----	-----	------	40,000
Residential Complex					
Superintendent's Residence	20,000	20,000	------	------	-----
Asst. Suptd.'s Residence	18,000	------	------	18,000	-----
Service Road	3,700	-------	------	------	------
Maintenance Complex					
Maintenance Building	9,000	-------	9,000	--------	------
Storage	2,000	-------	2,000	--------	------
Fence	1,000	-------	1,000	-------	------
Active Rec. Area					
Park drive	31,600	-------	------	18,400	-------
Rest Station	14,500	14,500	------	------	-------
Parking lots	12,000	4,600	3,000	4,400	-------
Picnic Units	11,000	8,125	2,875	------	-------

CONSTRUCTION COST (CONT'D.)

	Total Cost	Phase I	Phase II	Phase III	Phase IV
Group Shelter	$ 6,000	2,750	15,000	------	------
Water System	35,000	20,000	15,000	------	------
Sewage System	50,000	20,000	30,000	------	------
Visitor's Center					
Information Kioski	8,000	------	8,000	------	------
Exhibit Hall	100,000	------	------	60,000	40,000
Auditorium	75,000	------	------	50,000	25,000
Laboratories	30,000	------	------	20,000	10,000
Offices	9,000	-------	------	3,000	6,000
Rest rooms	6,000	------	------	6,000	------
Meeting Room	12,000	------	------	------	12,000
Control fence	4,000	2,000	2,000	------	------
Interpretative Trails					
Conducted Nature Trails	12,000	2,700	5,000	3,300	1,000
Hiking Trails	10,300	2,300	3,000	3,000	2,000
Panola Mountain Trail	16,000	-----	9,000	4,000	3,000
Wildlife Trail	5,000	-----	------	------	5,000
Pond Area					
Rehabilitation Cottage	8,000	------	------	------	8,000
Dam Rehabilitation	5,000	------	------	------	5,000
Interpretative Station	2,000	------	------	------	2,000
Trails	2,000	------	------	------	2,000

CONSTRUCTION COST (CONT'D.)

	Total Cost	Phase I	Phase II	Phase III	Phase IV
Student Residence Center					
Residences	$30,000	------	------	------	30,000
Water	10,000	------	------	10,000	------
Sewage System	10,000	------	------	10,000	------
Access Road	18,000	------	------	18,000	------
Miscellaneous					
Security Fence	60,000	2,000	40,000	18,000	------
Drainage	8,000	------	8,000	------	------
Electrical Distribution	20,000	5,000	11,000	4,000	------
Landscaping	15,000	4,000	8,000	-----	3,000
Sub-Total	756,400	129,475	177,825	253,100	196,000
Administration					
Design & Engineering	101,539	7,500	26,674	37,965	29,400
Master Plan	8,000	8,000	------	------	------
Construction Super.	20,000	4,000	5,000	8,000	3,000
Contingencies	30,000	4,000	8,000	10,000	8,000
Sub-Total	159,539	23,500	39,674	55,965	40,400
GRAND - TOTAL	915,939	152,975	217,499	309,065	236,400

CONCLUSIONS AND RECOMMENDATIONS

1. Panola Mountain State Park can not possibly supply the necessary recreation-education facilities for even the primary region.

2. Encourage local school districts to develop their own programs. They need not be as elaborate as Fernbank Science Center (DeKalb Co.) or Panola Mt.

3. Panola Mountain State Park should serve as a training center for the above user groups.

4. Following the Comprehensive Master Plan is important. The 1050 daily capacity is the maximum carrying capacity that should use the park. This is an annual capacity of 383,250 visitors, but does not equal the school age children that will make up a great deal of the visitor groups.

5. Due to the fact that this is a recreation-education facility and not an educational facility alone, strict coordination between the Park administration and education districts is important. Scheduling must be made in advance to insure proper dispersement of general public and special user groups. This coordination applies to all special user groups also.

6. Acquire additional lands to facilitate any expansion proposed. The Active Use Zone will support additional facilities but only with additional land areas for trails, interpretative stations, etc.

7. An entrance fee, user fee or something similar should be initiated at the opening of the Park.

8. The number of employees needed for various positions does not necessarily have to be staffed by Georgia Department of State Parks. In lieu of above fees, some school districts, special user groups, etc. could fill personnel positions with their own people or contribute to the salaries of park personnel. These persons, however, would be directly responsible to the Park Superintendent and no special allowance given to the donor.

9. The land use zoning plan should be accepted and documented to that effect so as to avoid overdevelopment in the park in the future.

10. Inquiries into donation of equipment, service material, operating funds, or other, from local,state and federal or private organizations should be solicited.

11. Arrangements for garbage and trash removal should be made or the possibility of recycling and using organic gardening should be investigated.

12. Reduction of speed limit on Georgia Highway 155 within one-half mile of Park entrance in both directions. Reduce from 60 mph. to 45 mph.

13. Training of personnel for first phase of development should begin immediately. Although limited staff would be needed during the first year of operation, they would help train future staffs.

14. An adequate maintenance program be funded by the state as soon as possible and commence with the opening of the Park.

15. Careful records should be kept as to user impact - source, number, and length of stay, etc. Also, their impact on the resources should be monitored periodically.

16. If problems or over-use occurs do not hesitate to close that section or the entire park if necessary. Correct the problem before it grows.

DEFINITION OF TERMS AS USED IN THE COMPREHENSIVE MASTER PLAN FOR PANOLA MOUNTAIN STATE PARK

Access Route: The road which is the route of vehicular travel between an existing public thoroughfare and the park entrance.

Active Use Zone: An area that is designated for active recreational use for administrative/operative use.

Activity Day: A measure of recreation use by one person of one facility or area for one day or part of a day. One person may exert more than one activity day per day. The activity day is probably most useful for apportioning total use to single uses and for sizing various parts of a given recreation development.

Actual or Practical Capacity: The number of people that can use the area, considering the requirement of dual usage, traffic, vacant units, administrative and the capacity of the land to support the people without deterioration of the resource.

Administrative Area: An area set aside for facilities used by an operating agency in administering a park or recreation area. May include office building, kiosks, or visitor centers.

Annual Capacity: The total capacity for use in a given year, considering the daily, weekly and seasonal variations in density of use.

Buffer Area: An area set aside to perserve the integrity of an adjacent recreation area and to prevent physical or aesthetic encroachment on the area.

Carrying Capacity: The amount of use that land can support over a long period without damage to the resource. It is measured in terms of recreation use per time unit (usually a day or a year), and varies with conditions of rain, topography, soil, climate, and vegatative cover. It can be increased by protective measures which do not in themselves harm the resources. It can be decreased by the harmful effects of use greater than the safe capacity.

Contact Station: A structure located at the park entrance for control.

Conservation: Keeping or protecting from loss or injury for recreational and educational use.

Daily Capacity: The number of people who can use an area in a day, considering the two foregoing and the rate of turnover. Parks usually receive two days of use per week occuring 1/2 day Monday through Friday; 1/2 day Saturday and Sunday.

Day Use: Recreation use of an area for one day or less. Day use may include participation in a number of recreation activities; eg., picnicing, play, water sports, sightseeing, etc., but excludes overnight use.

Day Use Area: A portion of a recreation area which is designed for recreation use by recreationists remaining on the area for one day or less. Does not include overnight use. Commonly a day use area will be developed to accommodate a number of recreation activities; eg., picnicing, sightseeing, water sports, etc.

Design Load or Instantaneous Capacity: The theoretical number of people the area can accommodate at a given moment.

Developed Area Plan: A drawing showing the existing and proposed development of a unit within a State park, generally at a scale of 1" = 200' or 400'.

Development Plan: A plan showing development proposals for a given park or portion thereof.

General Development Plan: A drawing showing the existing and proposed development of a unit of the State Park system, generally at a scale of 1" = 400' or larger.

Initial Stage Development: That portion of the total recreation development which is constructed first. Ideally, the initial stage should be planned and constructed to accommodate a predicted level of visitation; eg;, an initial stage recreation development which will accommodate the predicted visitation in the tenth year of park operation.

Interpretive Station: A stop on a nature, hiking or study trail to interprete something of interest.

Kiosk: A building or shelter so located in reference to the recreation area that it may be operated for the collection of fees, as a check point for control of use, and/or for the dissemination of information.

Land Use Zoning Plan: A plan showing, in a diagrammatic fashion, the existing and proposed park uses by zones.

Limited or Controlled Use Zone: A use area that has restriction as to use.

Maintenance Complex: See Service Area.

Master Plan: The controlling document for the operation and development of a unit of the park system.

Moderate or dispersed use zones: An area where passive recreational use takes place, eg., hiking, nature study, etc.

Natural Area: An area within the recreation area which is developed for passive recreation use and generally serves the function of enhancing the aesthetic quality of the overall recreation development.

Overlook Vistas: A sightseeing and/or observation area so located and constructed that visitors can view the dam, pond, surrounding countryside and/or other objects or areas of interest.

Park Drive: A public road for vehicular traffic within the recreation area.

Parking Area: An area designated and constructed for the parking of vehicles. Implies parking developed for a number of automobiles; eg., a parking lot. A specialized type of parking area is provided for buses and in connection with visitors' center.

Parking Spur: An area designated and constructed for the parking of an automobile. Implies a parking area for one to three automobiles or a trailer and one or more automobiles.

Park Season: Normally, Memorial Day through Labor Day. Approximately 70 percent of park use occurs during this season.

Phasing (Phased Development): The construction of recreation facilities in stages. The basis for phasing or phased development may be recreation demand (for types and/or numbers of facilities), availability of money, etc.

Picnic: A type of recreation day use which includes at least one meal in the open air. Note: Picnic areas, picnic grounds, picnic sites, picnic units, and picnic facilities are usually planned for either family use or group use. In general, the unmofified term "picnic" implies family use (or use by other than a large group.) Consequently, the modifier, "group" should be used if group use is planned.

Picnic Area: That portion of land surface within a recreation area or recreation site designated or zoned for picnic use.

Picnic Unit: A group of facilities, developed to accommodate picnic use.

Preservation: Protect and keep intact and to maintain in a manner as nearly unimpaired as possible.

Recreation: An activity beyond that required for personal or family maintenance or for material gain, that is for enjoyment rather than for survival.

Recreation Area: That portion of land and water surface which is designated for recreation use.

Recreation-Education: Area set aside for passive recreation that is for enjoyment as well as enlightenment.

Recreation Facility: A specific device provided to accommodate recreation use; eg., a table, a stove, a road, etc.

Recreation Site: A parcel of land within a recreation area which has recreation potential and is designated for recreation development and use. Does not imply specific development for the type of designated recreation use.

Recreation Unit: A grouping of recration facilities which are constructed to provide a type of recreation accommodation; eg., a picnicking unit is a type of recreation unit and is developed with the following facilities: a table, grill, parking spur, etc.

Recreation Use: The occupation, utilization, consumption, or enjoyment of a recreation resource, or of a particular part of a recreation resource.

Residential Complex: Location for Park Superintendent and Asst. Park Superintendent residence.

Restricted Use Zone: A portion of a recreation area which is designated to serve a specified recreation function or functions to the exclusion of incompatible activities.

Restricted Zones: Areas into which public access is prohibited for reasons of fire prevention, public health and safety.

Rest Station: A building designated and constructed as a portion of the sanitary system, which contains toilet facilities.

Sanitary Facilities: Those developments or services which are necessary to protect public health while visiting the recreation area.

Maintenance Complex: An area set aside for facilities used in routine operation for maintaining a park or recreation area. May include equipment yards, shops and storage area.

Service Roads: Vehicular roads within an area used primarily for maintenance vehicles. These roads may also serve as public pedestrian paths and fire trails.

Sewerage System: Those sanitary facilities which are normally necessary to dispose of waste products of the human body.

Trail: A pathway or roadway designed and constructed to carry other than normal vehicular traffic. Use of a trial may be as restricted as is desired by the recreation operator. For example; a trail may be used by hikers, hikers and for nature study, service.

Turnover Rate: The number of times a given facility is used during a given period of time.

Visitor Center: A facility designed for exhibits, lectures, and presentation of the park operation.

Visitor Day: A measure of recreation use by one person for one day or part of a day. It may be brief or it may be as long as 12 hours. Brief views, from a highway, are not visits in this sense, nor are brief stops at such places as overlooks. So far as accuracy of data permits, one person will log only one visitor day at a given recreation resource during any 12 hour day. The visitor day is probably the most convenient unit for purposes of economic analysis; it is probably less convenient when used for sizing recreation facilities and apportioning total use to various activities. Visitors will normally not exceed 12 hours in Panola Mountain State Park.

Water-Associated Recreation: Recreation which is carried on at, near, in, on, under, or because of the presence of standing or running water.

Water System: Facilities, including development for supply, treatment, storage, and distribution, which supply adequate potable water to the recreation area and/or recreation sites.

ACKNOWLEDGMENTS

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Advisory Committee to the planning of Panola Mountain State Park.

Georgia Department of State Parks

Georgia Department of Mines, Minning & Geology

Georgia State Game and Fish Commission

Georgia Forestry Commission

Georgia Air Transportation Department

Georgia Historical Commission

Georgia Highway Department

Georgia Recreation Commission

Georgia Planning Commission

Georgia State Park Planning Guidelines

Pennsylvania Department of Forests and Waters
Bureau of State Parks

"A Feasibility Study for Nolde Forest State Park"
by Planning Associates - Bohemia, New York

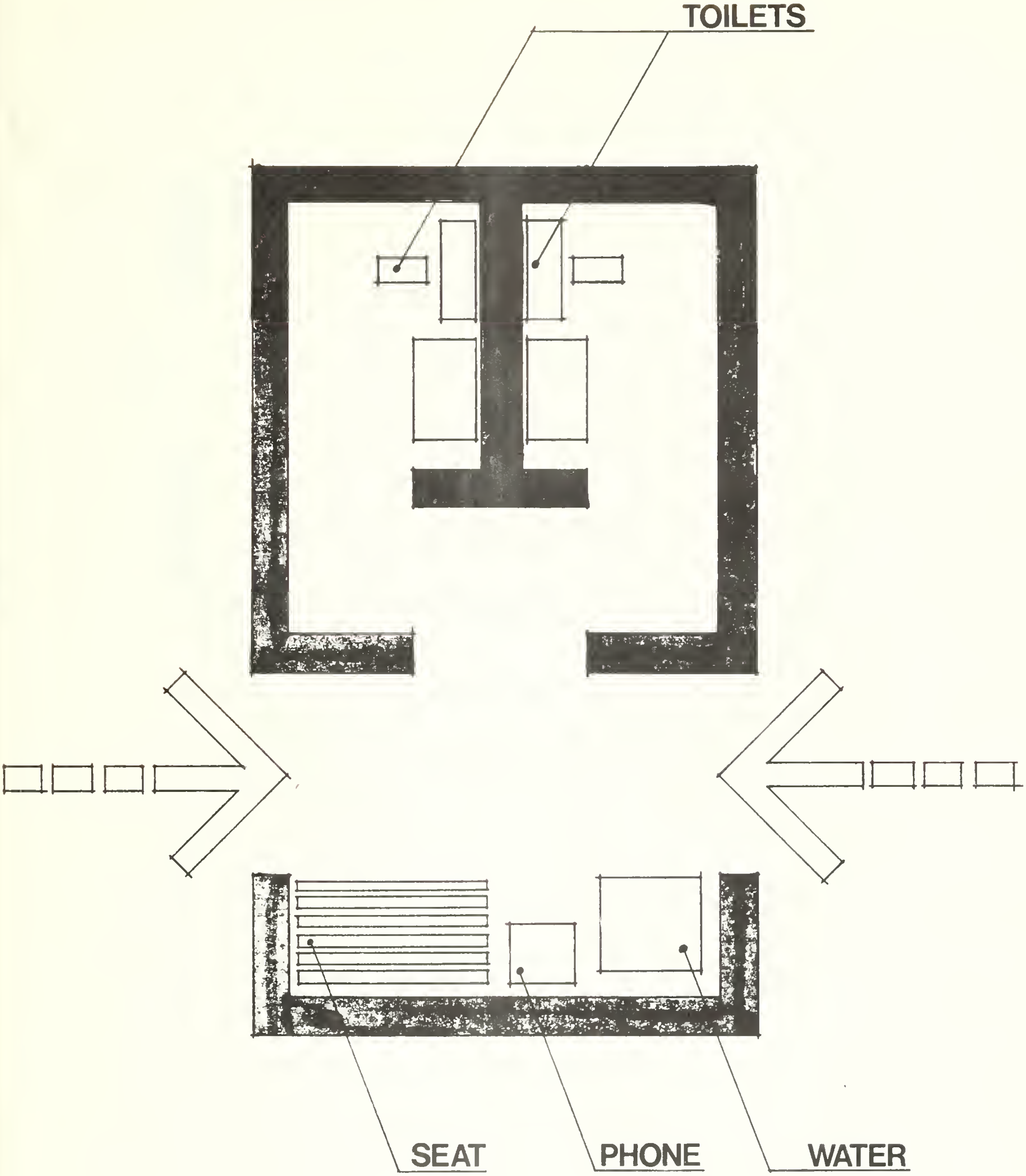
U. S. Department of Agriculture Soil Conservation Service
Southeastern Region

U. S. Department of Agriculture Forest Service
Southeastern Region

U. S. Department of the Interior
Bureau of Outdoor Recreation

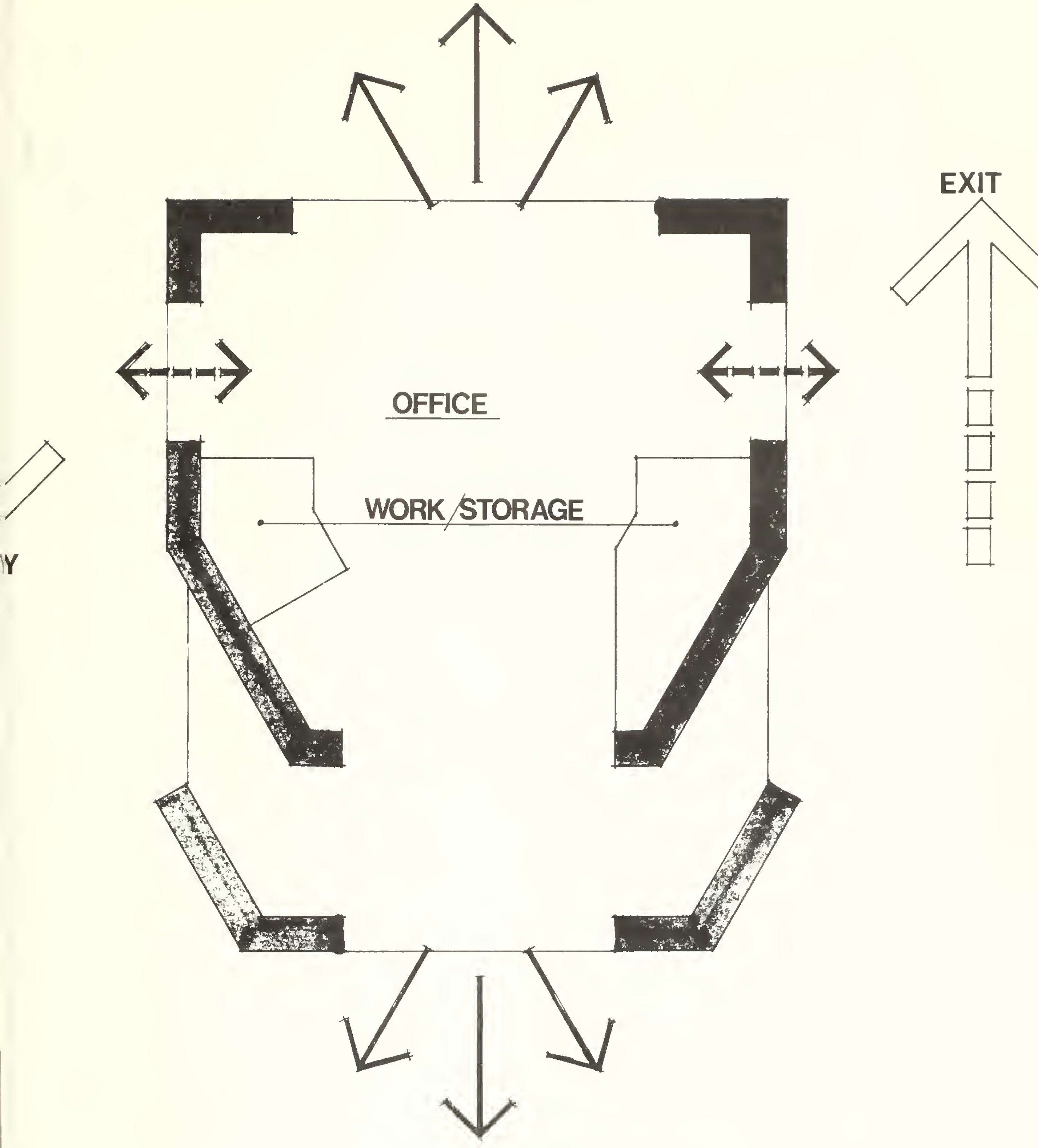
"Granite Outcrop Communities of the Piedmont Plateau in Georgia"
by Madeline P. Burbank and Robert B. Platt.

Atlanta Metropolitan Planning Commission



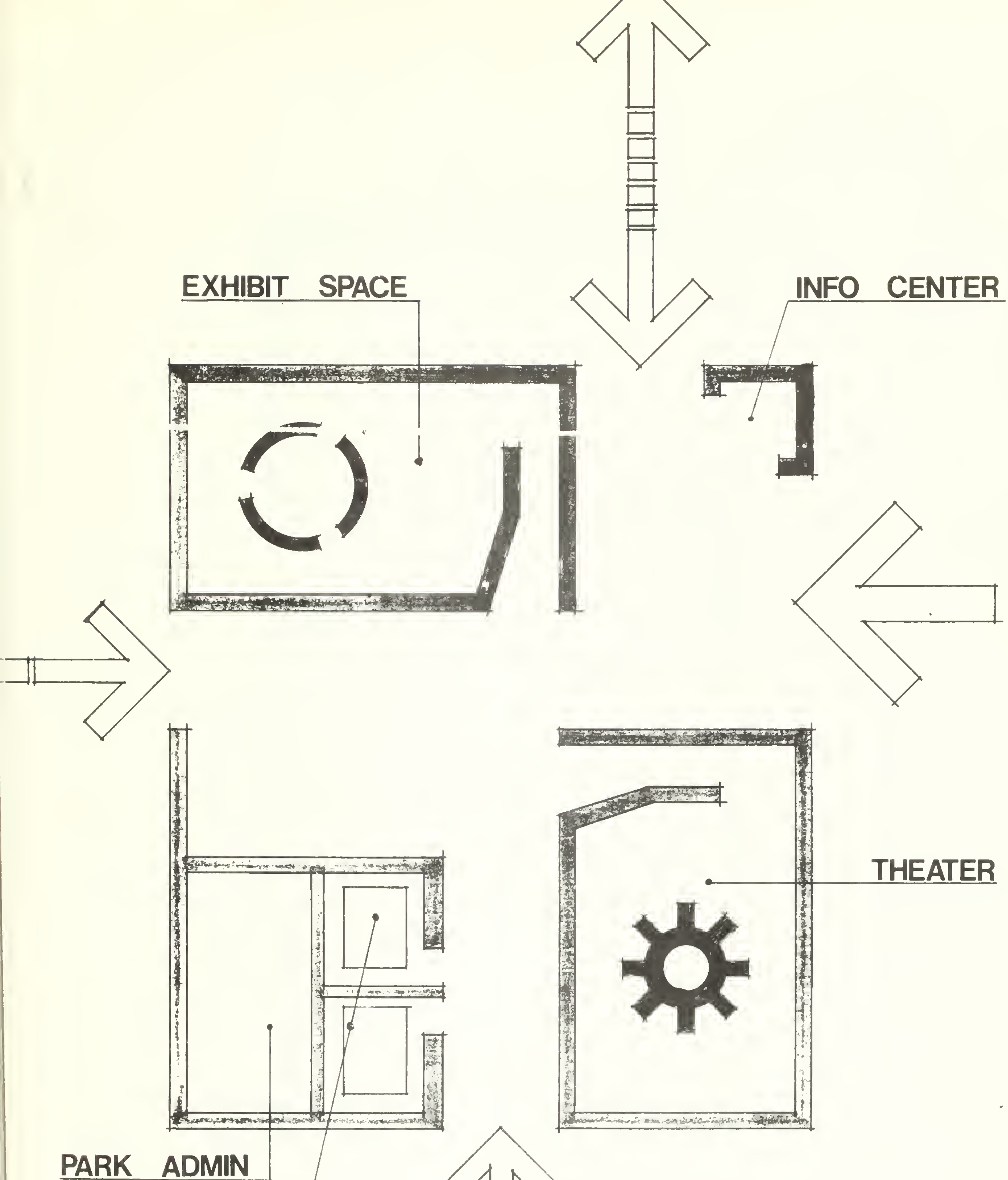
REST STATION

Fig. 1



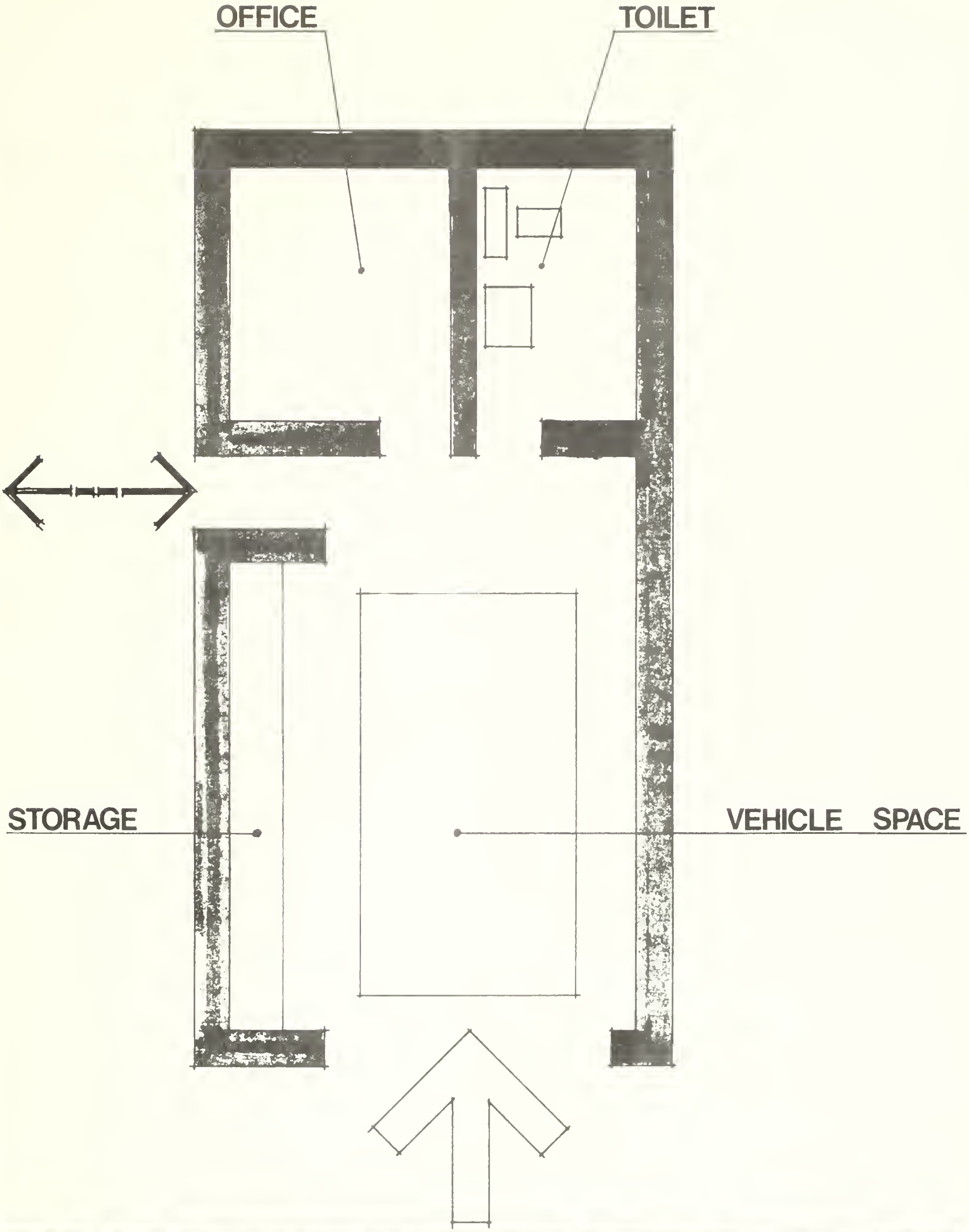
CONTACT

Fig. 2



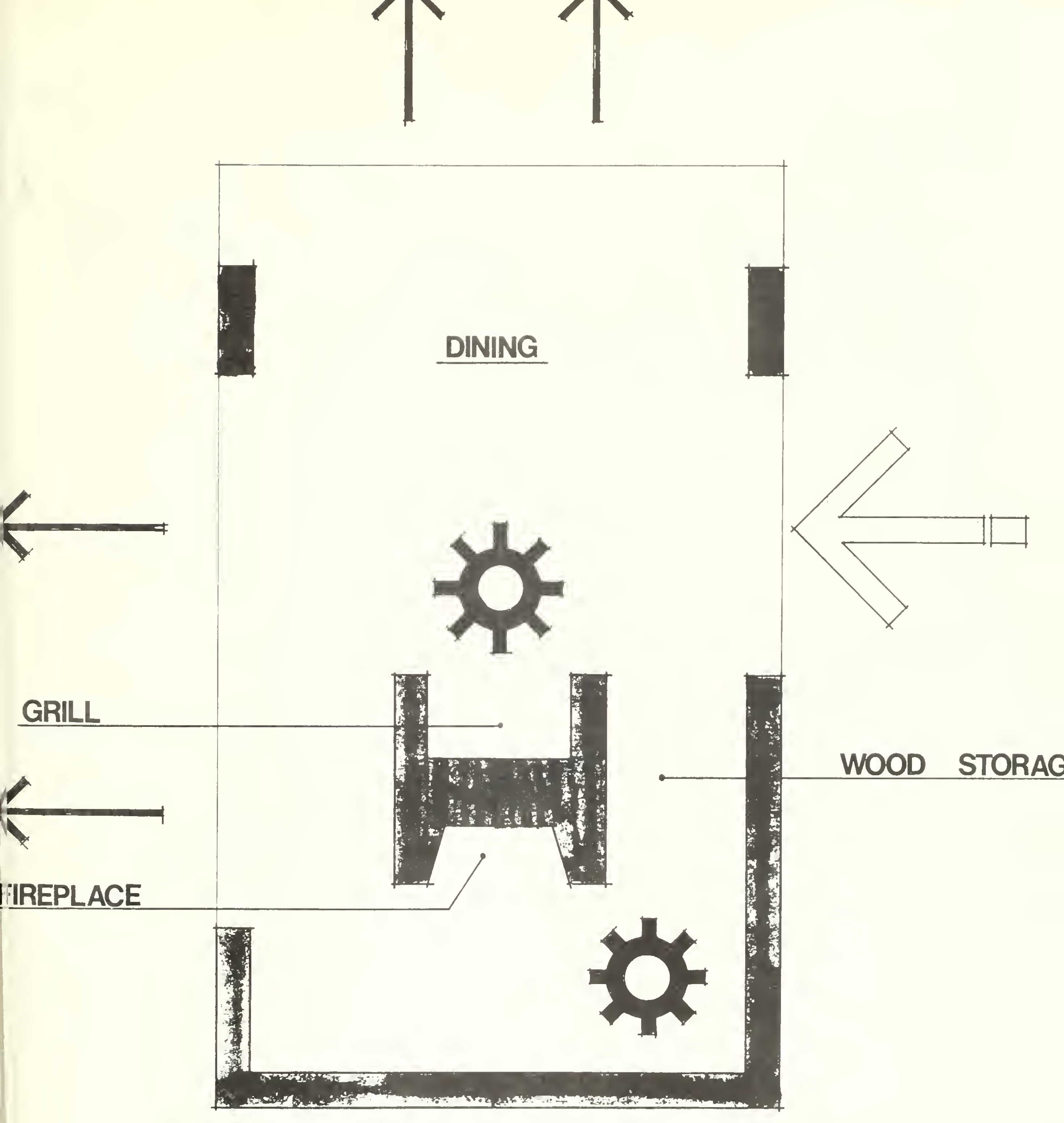
VISITOR CENTER

Fig. 3



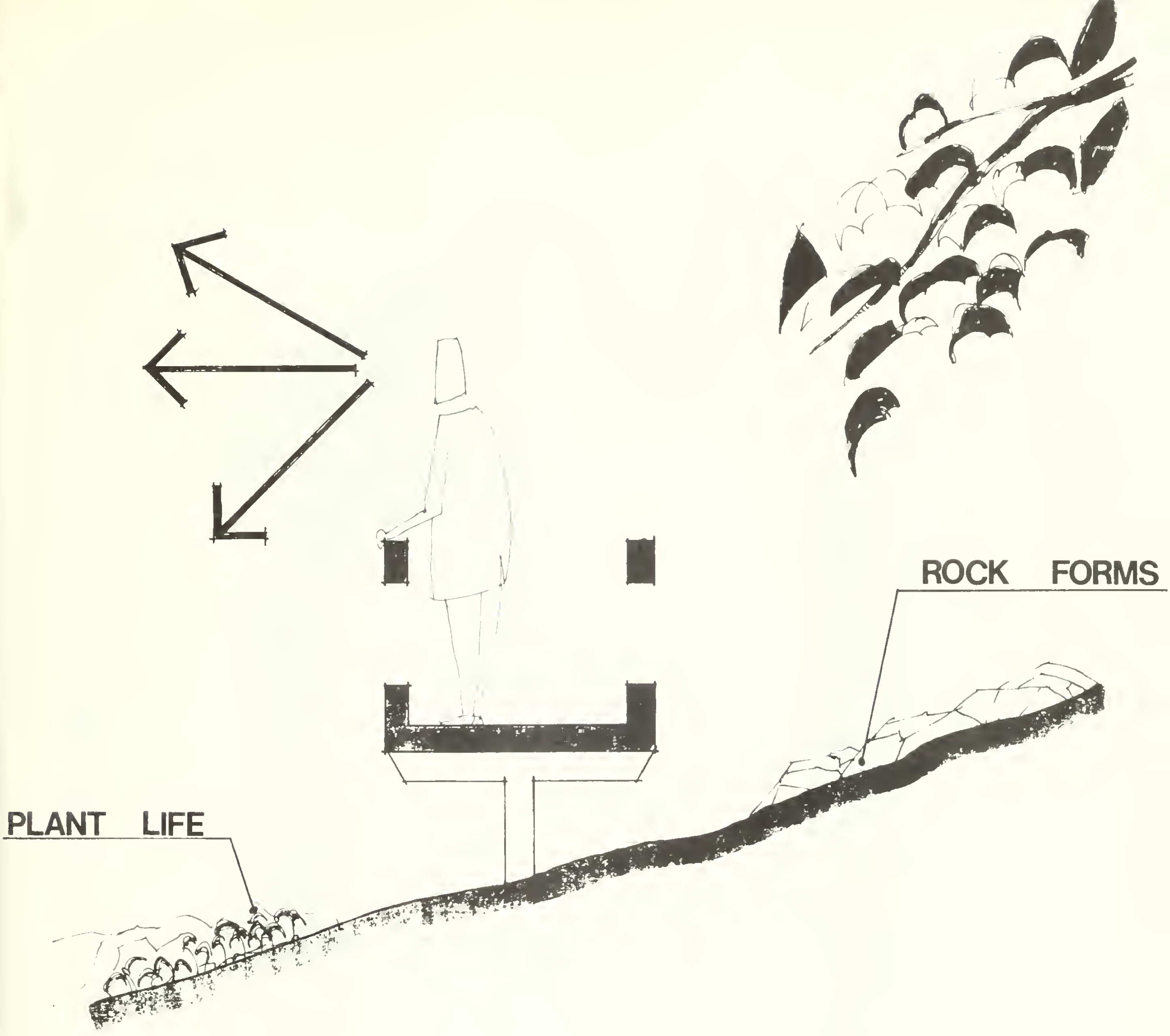
WORK BLDG.

Fig. 4



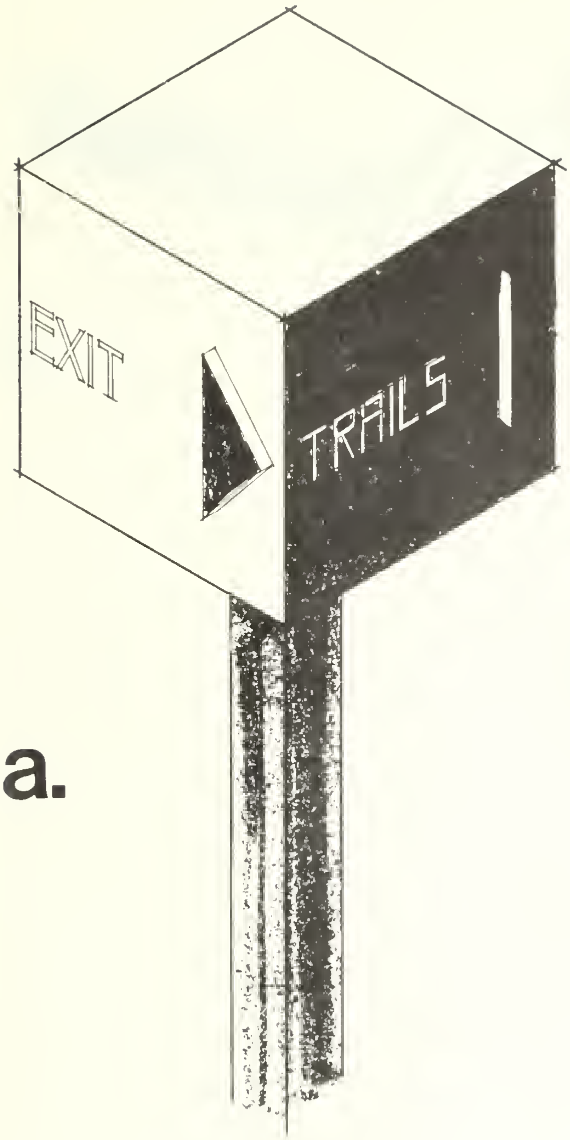
PICNIC

Fig. 6



MT. WALKWAY

Fig. 7



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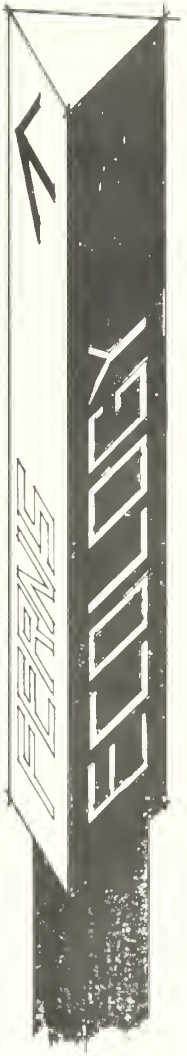
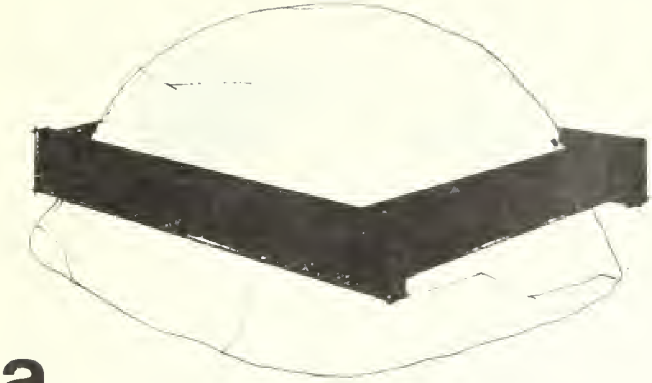


b.

SIGNING

Fig

8



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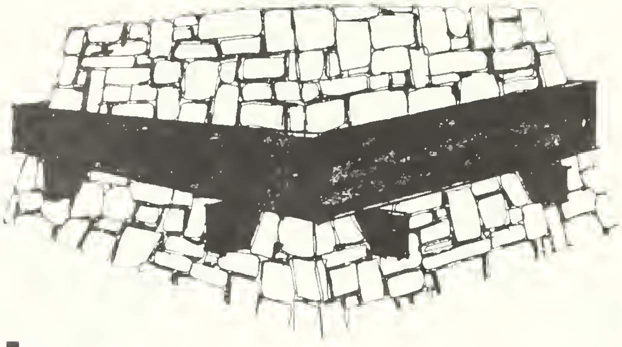

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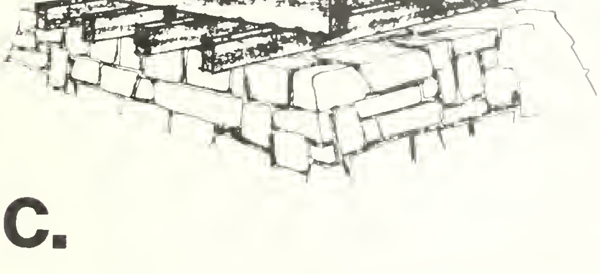
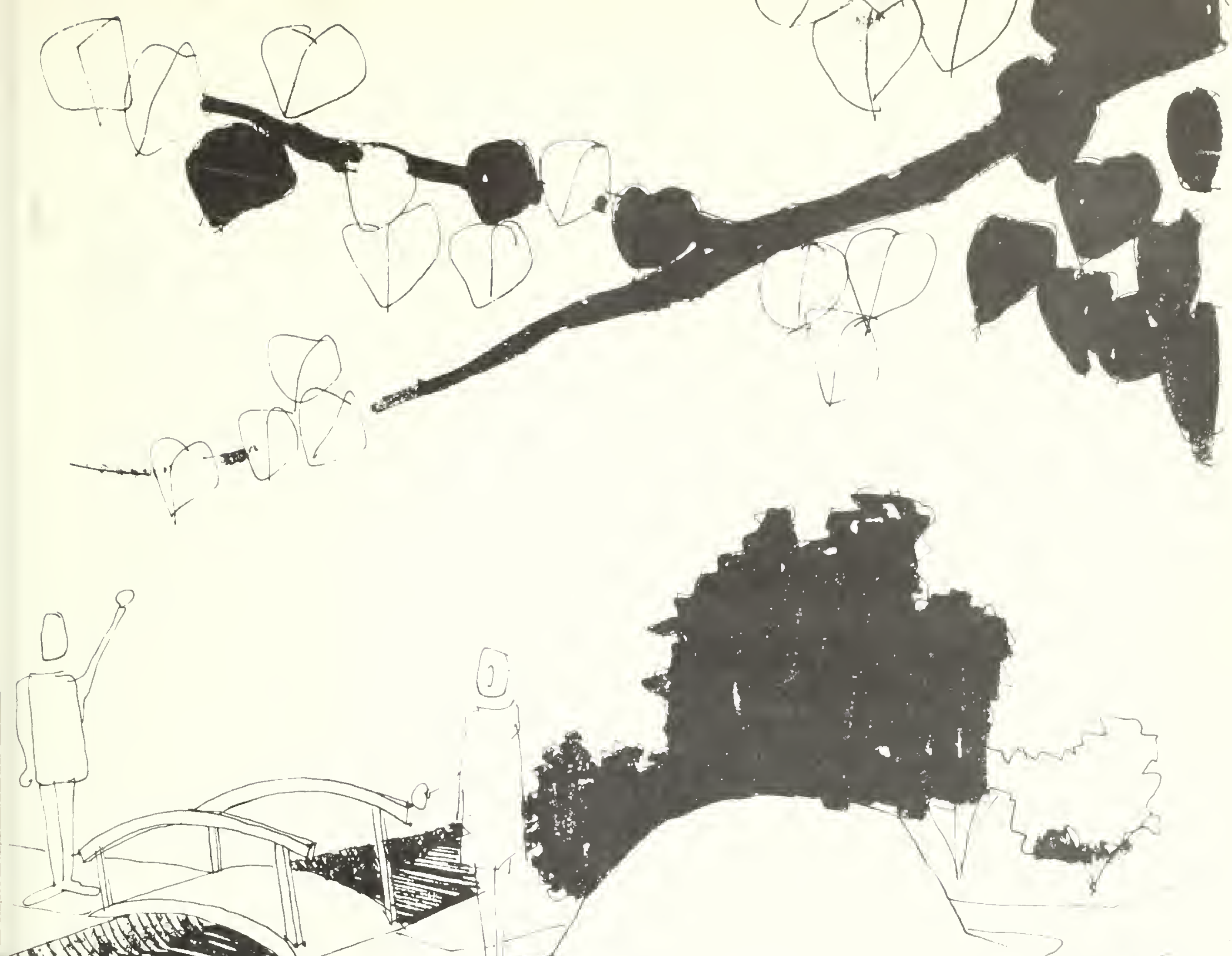


c.

ENTRY SIGN

Fig 9



TRAIL

Fig
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